Access DB# 22205

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: L. E. Crane Examiner #: 65753 Date: 08/04/00
Art Unit: 1623 Phone Number 30 8-4639 Serial Number: 09/380,688 638
Mail Box and Bldg/Room Location: CM1; 7E-15 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

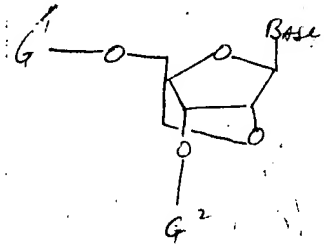
Title of Invention: see copy of claims attached

Inventors (please provide full names): "

Earliest Priority Filing Date: "

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search for the following structure and oligonucleotides ~~XXXXXXXXX~~ incorporating same --



G¹ + G² defined in claim 1 or open for oligonucleotides

PLEASE RUSH

George Elliott

****

STAFF USE ONLY

Searcher: Jan
Searcher Phone #: 74199
Searcher Location:
Date Searcher Picked Up: 8/7
Date Completed: 8/7
Searcher Prep & Review Time: 30
Clerical Prep Time:
Online Time:

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#) 2
Bibliographic
Litigation
Fulltext
Patent Family
Other

Vendors and cost where applicable

STN ✓
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (1-2000)

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:03:37 ON 07 AUG 2000
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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STRUCTURE FILE UPDATES: 4 AUG 2000 HIGHEST RN 283584-30-5
DICTIONARY FILE UPDATES: 4 AUG 2000 HIGHEST RN 283584-30-5

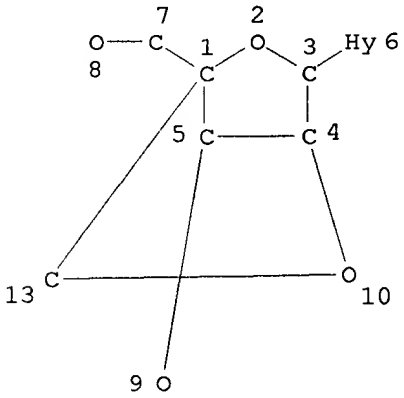
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 11, 2000

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT for details.

=> d sta que l15

L13 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M2 N AT 6

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L15 54 SEA FILE=REGISTRY SSS FUL L13

100.0% PROCESSED 1348 ITERATIONS 54 ANSWERS
SEARCH TIME: 00.00.01

=> d his l15-l16

(FILE 'REGISTRY' ENTERED AT 12:26:36 ON 07 AUG 2000)
L15 54 S L13 FUL
SAV L15 CRANE380/A
L16 1 S L15 AND C40H47N4O9P

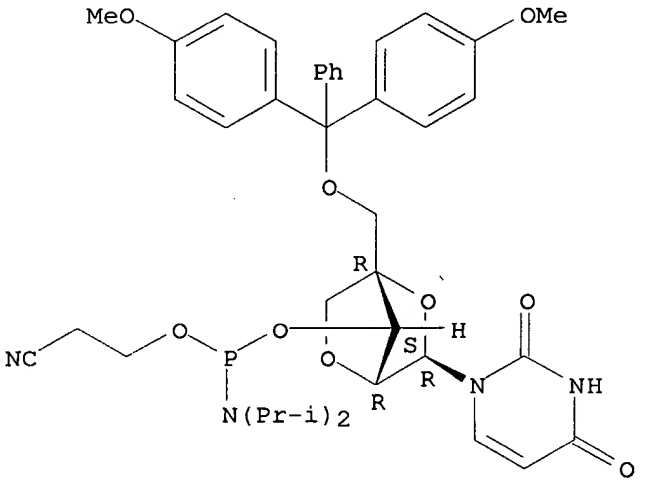
=> d ide can l16

L16 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS

Point of Contact:
Jan Delaval
Librarian-Physical Sciences
CM1 1E01 Tel: 308-4498

RN 206055-76-7 REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C40 H47 N4 O9 P**
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 129:245421

REFERENCE 3: 129:216849

REFERENCE 4: 128:308697

=> d his l25-

(FILE 'REGISTRY' ENTERED AT 12:26:36 ON 07 AUG 2000)
L25 53 S L15 NOT L16

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L26 0 S L16
L27 0 S L25

FILE 'HCAPLUS' ENTERED AT 12:50:12 ON 07 AUG 2000
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L29 14 S L25
L30 14 S L28,L29
E IMANISHI T/AU
L31 197 S E3,E15
E OBIKA S/AU
L32 28 S E4
L33 5 S L31-L32 AND L30
L34 9 S L30 NOT L33
L35 9 S L30 AND (PY<=1998 OR PRY<=1997 OR PRY.B<=1997 OR AY<=1997 OR
L36 9 S L30 AND L35
L37 4 S L33 AND L36
L38 5 S L33,L37
L39 9 S L30,L35 NOT L38

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L40           5 S L35 AND L39
L41         198 S L31,L32
L42         193 S L41 NOT L33,L38

     FILE 'REGISTRY' ENTERED AT 12:55:59 ON 07 AUG 2000

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               SET SMARTSELECT ON
L43          SEL L42 1- RN :    2815 TERMS
               SET SMARTSELECT OFF

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L44         2709 S L43
L45          158 S L44 AND UNSPECIFIED/MF
L46           54 S L44 AND C METHYLENE
L47           54 S L45 AND L46
L48          104 S L45 NOT L47
L49           66 S L48 AND NUCLE?/FS
L50          284 S NUCLE?/FS AND C METHYLENE
L51          230 S L50 NOT L47
L52          228 S L51 NOT L15

     FILE 'HCAPLUS' ENTERED AT 13:00:32 ON 07 AUG 2000
L53            3 S L47
L54           28 S L52
L55            8 S L38,L53
L56            8 S L55 AND L41
L57           26 S L54 NOT L56
L58            2 S L54 AND L41
L59            8 S L56,L58
L60           26 S L54 NOT L59
L61           17 S L60 AND (PY<=1998 OR PRY<=1997 OR PRY.B<=1997 OR AY<=1997 OR
               SAV L61 CRANE380CA/A

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=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 13:04:24 ON 07 AUG 2000
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FILE LAST UPDATED: 6 Aug 2000  (20000806/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

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Now you can extend your author, patent assignee, patent information,
and title searches back to 1907.  The records from 1907-1966 now have
this searchable data in CAOLD.  You now have electronic access to all
of CA: 1907 to 1966 in CAOLD and 1967 to the present in HCAPLUS on STN.

=> d bib abs hitrn tot l59
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L59 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 2000:42188 HCAPLUS
DN 132:222792
TI Triplex formation by an oligonucleotide containing conformationally locked C-nucleoside, 5-(2-O,4-C-methylene-.beta.-D-ribofuranosyl)oxazole
AU **Obika, Satoshi**; Hari, Yoshiyuki; Ken-Ichiro, Morio; **Imanishi, Takeshi**
CS Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, 565-0871, Japan
SO Tetrahedron Lett. (1999), Volume Date 2000, 41(2), 221-224
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
AB The triplex-forming ability of oligonucleotide analogs contg. conformationally locked C-nucleosides, 5-(2-O,4-C-methylene-.beta.-D-ribofuranosyl)oxazole or its 2-Ph congener, towards a purine sequence of duplex DNA with a single C.cntdot.G base pair interruption is studied.
IT **260961-02-2P 260961-03-3P 260961-04-4P**
260961-20-4P 261151-48-8P 261151-49-9P
261151-50-2P 261151-51-3P 261151-52-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(triplex formation by an oligonucleotide contg. conformationally locked C-nucleoside 5-(C-methyleneribofuranosyl)oxazole)
RE.CNT 19
RE
(1) Griffin, L; J Am Chem Soc 1992, V114, P7976 HCAPLUS
(2) Griffin, L; Science 1989, V245, P967 HCAPLUS
(3) Horne, D; Nucleic Acids Res 1991, V19, P4963 HCAPLUS
(4) Huang, C; Nucleic Acids Res 1996, V24, P2606 HCAPLUS
(5) Koshkin, A; J Am Chem Soc 1998, V120, P13252 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 2000:42187 HCAPLUS
DN 132:208082
TI Synthesis of conformationally locked C-nucleosides having a 2,5-dioxabicyclo[2.2.1]heptane ring system
AU **Obika, Satoshi**; Hari, Yoshiyuki; Ken-Ichiro, Morio; **Imanishi, Takeshi**
CS Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, 565-0871, Japan
SO Tetrahedron Lett. (1999), Volume Date 2000, 41(2), 215-219
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
AB Some novel C-nucleosides having a 2,5-dioxabicyclo[2.2.1]heptane ring system were successfully synthesized via the coupling reaction of tetrahydrofurancarbaldehyde with the lithium and the magnesium derivs. of arom. heterocycles.
IT **260434-66-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of conformationally locked C-nucleosides having a dioxabicyclo[2.2.1]heptane ring system)
RE.CNT 17
RE
(1) Herdewijn, P; Liebigs Ann Chem 1996, P1337 HCAPLUS
(2) Jones, G; J Org Chem 1979, V44, P1309 HCAPLUS
(3) Koshkin, A; J Am Chem Soc 1998, V120, P13252 HCAPLUS
(4) Koshkin, A; Tetrahedron 1998, V54, P3607 HCAPLUS
(5) Kvaerno, L; Chem Commun 1999, P657 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2000 ACS

AN 1999:188587 HCAPLUS
DN 130:296948
TI Preparation and properties of 2',5'-linked oligodeoxyribonucleotide analogs containing 3'-O,4'-C-methylene-ribonucleosides
AU **Obika, Satoshi**; Morio, Ken-ichiro; Hari, Yoshiyuki; **Imanishi, Takeshi**
CS Graduate School of Pharmaceutical Sciences, Osaka University, Suita, 565-0871, Japan
SO Bioorg. Med. Chem. Lett. (1999), 9(4), 515-518
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
AB Bicyclic nucleoside analogs, 3'-O,4'-C-methyleneuridine and -5-methyluridine, were successfully incorporated into oligonucleotides via connection with 2',5'-phosphodiester linkage, and hybridization behavior and nuclease stability of the modified oligonucleotides were investigated.
IT **207807-33-8P 207807-34-9P 207807-35-0P**
207807-36-1P 207869-84-9P 207869-85-0P
207869-86-1P 207869-87-2P 207869-88-3P
207869-89-4P 207869-90-7P 223112-82-1P
223112-87-6P 223113-91-5P 223113-92-6P
223113-93-7P 223113-94-8P 223113-95-9P
223113-96-0P 223113-97-1P 223113-98-2P
223243-68-3P 223243-69-4P 223243-70-7P
223243-71-8P 223243-72-9P 223243-73-0P
223243-74-1P 223243-75-2P 223243-76-3P
223243-78-5P 223243-81-0P 223243-83-2P
223243-84-3P 223243-85-4P
RL: BPR (Biological process); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(prepn. and nuclease resistance of 2',5'-linked oligodeoxyribonucleotide analogs contg. methyleneribonucleosides)
IT **207869-83-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and nuclease resistance of 2',5'-linked oligodeoxyribonucleotide analogs contg. methyleneribonucleosides)
RE.CNT 22
RE
(1) Alul, R; Antisense Res Dev 1995, V5, P3 HCAPLUS
(2) Beaucage, S; Tetrahedron 1993, V49, P6123 HCAPLUS
(3) Dougherty, J; J Am Chem Soc 1992, V114, P6254 HCAPLUS
(4) Giannaris, P; Nucleic Acids Res 1993, V21, P4742 HCAPLUS
(5) Hashimoto, H; J Am Chem Soc 1992, V114, P6255 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:612113 HCAPLUS
DN 129:245421
TI Preparation of antisense bicyclonucleoside and oligonucleotide analogs
IN **Imanishi, Takeshi; Obika, Satoshi**
PA Japan
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9839352	A1	19980911	WO 1998-JP945	19980309 <--

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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,

FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
JP 10304889 A2 19981117 JP 1998-55114 19980306 <--
AU 9861209 A1 19980922 AU 1998-61209 19980309 <--
AU 720472 B2 20000601
EP 1013661 A1 20000628 EP 1998-905804 19980309 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
PRAI JP 1997-53409 19970307 <--
WO 1998-JP945 19980309
OS MARPAT 129:245421
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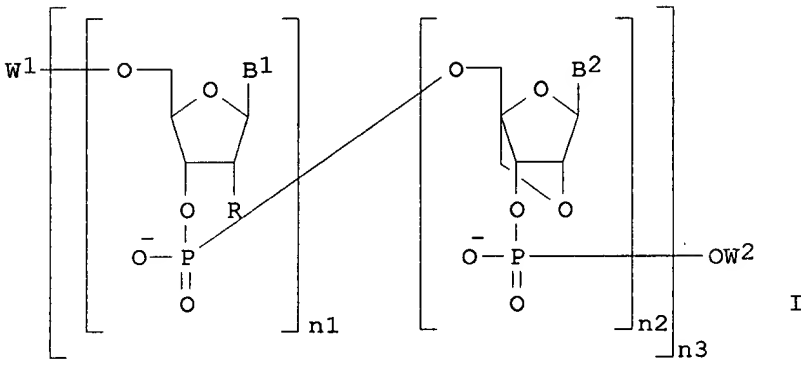

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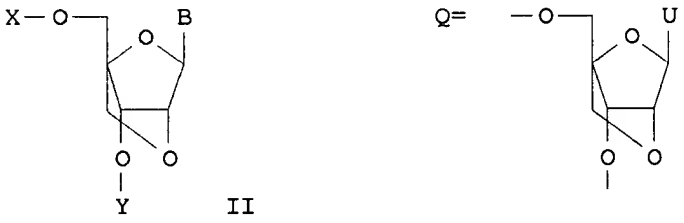

II

AB Oligo- or polynucleotide analogs (I; B1, B2 = pyrimidine or purine nucleic acid base or its analog; R = H, OH, halo, alkoxy; W1, W2 = H, alkyl, alkenyl, alkynyl, cycloalkyl, aralkyl, aryl, acyl, silyl, PO3H2, natural nucleoside bonded through a phosphodiester linkage or its analog or oligo- or polynucleotide contg. these nucleoside; n1, n2 = an integer of 1-50; provided that n1 and n2 are not simultaneously 0 or all n2 is not 0; n3 = an integer of 1-50; provide when n1 and/or n2 is .gtoreq.2, B and B1 are not necessarily identical or R is not necessarily identical) are prepd. from nucleoside analogs (II; B = pyrimidine or purine nucleic acid base or analog; X, Y = H, alkyl, alkenyl, alkynyl, cycloalkyl, aralkyl, aryl, acyl, silyl) or its amidite deriv. They can provide antisense mols. of oligonucleotide analogs that are less likely to undergo enzymic hydrolysis in vivo, have a high capability of binding to sense chains, and can be easily synthesized. Thus, 5'-GTTTTTTTTTXXC-3' (X = Q), which was prepd. by a Pharmacia Gene Assembler Plus on a controlled pore glass using the phosphoramidite II [B = uracil residue, X = 4,4'-dimethoxytrityl, Y = P[N(CHMe2)2]OCH2CH2CN], showed much higher resistance against hydrolysis by snake venom than natural 5'-GTTTTTTTTTTC-3'.

IT **213183-17-6P 213183-18-7P 213183-19-8P**
213183-20-1P 213183-21-2P 213183-22-3P
213183-23-4P 213183-25-6P 213183-26-7P
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

(Preparation); USES (Uses)
(prepn. of antisense bicyclonucleoside-contg. oligonucleotide analogs with resistance against enzymic hydrolysis)

IT **212314-11-9 212314-12-0 212314-13-1 212314-14-2 212314-15-3 212314-16-4 212314-17-5 212314-18-6 212314-19-7 212314-20-0 212314-21-1 212314-22-2 212314-23-3 212314-24-4 212314-25-5 212314-26-6**
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(prepn. of antisense bicyclonucleoside-contg. oligonucleotide analogs with resistance against enzymic hydrolysis)

IT **195705-32-9P 200435-91-2P 200435-92-3P 206055-67-6P 206055-76-7P 212970-71-3P 212970-81-5P 212970-82-6P 212970-83-7P 212970-84-8P 212970-85-9P 212970-86-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of antisense bicyclonucleoside-contg. oligonucleotide analogs with resistance against enzymic hydrolysis)

L59 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:454046 HCAPLUS
DN 129:216849
TI Stability and structural features of the duplexes containing nucleoside analogs with a fixed N-type conformation, 2'-O,4'-C-methyleneribonucleosides
AU **Obika, Satoshi**; Nanbu, Daishu; Hari, Yoshiyuki; Andoh, Jun-Ichi; Morio, Ken-Ichiro; Doi, Takefumi; **Imanishi, Takeshi**
CS Graduate School of Pharmaceutical Sciences, Osaka University, Suita, 565-0861, Japan
SO Tetrahedron Lett. (**1998**), 39(30), 5401-5404
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
AB Bicyclic nucleoside analogs with a fixed N-type conformation, 2'-O,4'-C-methylene-uridine and -cytidine, were incorporated into oligonucleotides, and the binding efficiency of the modified oligonucleotides to the complementary DNA and RNA as well as the CD spectra of the modified DNA-DNA and modified DNA-RNA duplexes were studied.

IT **212193-93-6 212193-94-7 212314-11-9 212314-12-0 212314-13-1 212314-14-2 212314-15-3 212314-16-4 212314-17-5 212314-18-6 212314-19-7 212314-20-0 212314-21-1 212314-22-2 212314-23-3 212314-24-4 212314-25-5 212314-26-6 212314-27-7**
RL: PRP (Properties)
(stability and structural features of the duplexes contg. 2'-O,4'-C-methylene-ribonucleosides with a fixed N-type conformation)

IT **195705-32-9**
RL: RCT (Reactant)
(stability and structural features of the duplexes contg. 2'-O,4'-C-methylene-ribonucleosides with a fixed N-type conformation)

IT **206055-76-7P 211935-22-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(stability and structural features of the duplexes contg. 2'-O,4'-C-methylene-ribonucleosides with a fixed N-type conformation)

L59 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:352858 HCAPLUS
DN 129:28175
TI Preparation of antisense oligonucleotide analogs
IN **Imanishi, Takeshi**

PA Imanishi, Takeshi, Japan
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9822489	A1	19980528	WO 1997-JP4187	19971118
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	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	JP 10195098	A2	19980728	JP 1997-315567	19971117
	AU 9749669	A1	19980610	AU 1997-49669	19971118
	EP 963997	A1	19991215	EP 1997-912488	19971118
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 6043060	A	20000328	US 1999-308367	19990518

PRAI JP 1996-306585 19961118
WO 1997-JP4187 19971118
OS MARPAT 129:28175
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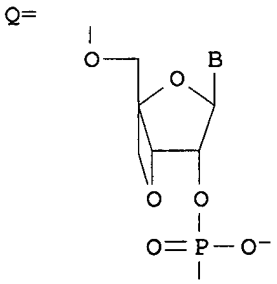

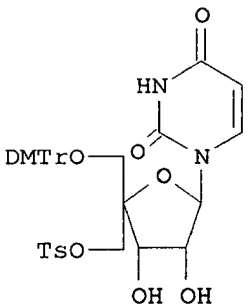

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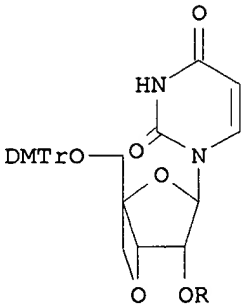

II

AB Oligo- or polynucleotide analogs contg. one or more nucleotide analog monomer units represented by general formula (Q; B = a pyrimidine or purine nucleic acid base or a deriv. thereof) are prepd. These oligonucleotides are antisense mols. which are not readily hydrolyzable by an enzyme in vivo, and exhibit a high binding power for sense strand, and are easy of synthesis. They are expected to be useful as drugs such as antitumor and antiviral agents for treating diseases by inhibiting gene function. Thus, tosylation of 2',3'-O-cyclohexylidene-4'-(hydroxymethyl)uridine by tosyl chloride in pyridine followed by deprotection with aq. CF3CO2H and 4,4'-dimethoxytrityl chloride in

pyridine gave the uridine deriv. (I; DMTr = 4,4'-dimethoxytrityl) which was treated with sodium hexamethyldisilazane (NaHMDS) in THF to give the anhydro uridine deriv. (II; R = H). The latter compd. was condensed with (Me2CH)2POCH2CH2CN in MeCN/THF to give the uridine phosphoramidite deriv. II [R = P(OCH2CH2CN)N(CHMe2)2] (III). III was incorporated into the 12-mer oligodeoxynucleotide 5'-d(GCGTTXTTTGCT)-3' (X = Q) by the phosphoramidite solid phase method using a Pharmacia DNA synthesizer (Gene Assembler Plus), duplexes of which with complimentary DNA, 5'-d(AGCAAAAAACGC)-3', and complimentary RNA, 5'-r(AGCAAAAAACGC)-3' showed melting temp. of 44.degree. and 47.degree., resp. In an assay for resistance against enzymic hydrolysis by exonuclease, the oligodeoxynucleotide 5'-d(GTTTTTTTTTXXC)-3' was hydrolyzed by snake venom phosphodiesterase in .apprx.90 min vs. .apprx.30 min for 5'-d(GTTTTTTTTTTC)-3'.

IT **207807-25-8P 207807-26-9P 207807-27-0P**
207807-28-1P 207807-29-2P 207807-30-5P
207807-31-6P 207807-32-7P 207807-33-8P
207807-34-9P 207807-35-0P 207807-36-1P
207869-82-7P 207869-83-8P 207869-84-9P
207869-85-0P 207869-86-1P 207869-87-2P
207869-88-3P 207869-89-4P 207869-90-7P
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of antisense oligonucleotide analogs as antitumor and antiviral agents)

L59 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 1997:790891 HCAPLUS
DN 128:61733
TI Synthesis of 2'-O,4'-C-methyleneuridine and -cytidine. Novel bicyclic nucleosides having a fixed C3'-endo sugar puckering
AU **Obika, Satoshi**; Nanbu, Daishu; Hari, Yoshiyuki; Morio, Ken-Ichiro; In, Yasuko; Ishida, Toshimasa; **Imanishi, Takeshi**
CS Faculty of Pharmaceutical Sciences, Osaka University, Suita, 565, Japan
SO Tetrahedron Lett. (**1997**), 38(50), 8735-8738
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
AB 2'-O,4'-C-Methyleneuridine and -cytidine, novel bicyclic nucleoside analogs having a typical C3-endo sugar puckering, were synthesized starting from uridine via a several-step sequence.
IT **195705-32-9P 200435-91-2P 200435-92-3P**
200435-94-5P 200435-95-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of bicyclic nucleosides having a fixed C3'-endo sugar puckering)
IT **200435-96-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of bicyclic nucleosides having a fixed C3'-endo sugar puckering)

L59 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2000 ACS
AN 1997:621268 HCAPLUS
DN 127:248347
TI Synthesis and conformation of 3'-O,4'-C-methyleneribonucleosides, novel bicyclic nucleoside analogs for 2',5'-linked oligonucleotide modification
AU **Obika, Satoshi**; Morio, Ken-Ichiro; Nanbu, Daishu; **Imanishi, Takeshi**
CS Faculty of Pharmaceutical Sciences, Osaka University, Suita, 565, Japan
SO Chem. Commun. (Cambridge) (**1997**), (17), 1643-1644
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English

AB Novel bicyclic nucleoside analogs 3'-O,4'-C-methyleneribonucleosides are conveniently prepd. starting from uridine; the sugar puckering is found to be nearly in the S-conformation by means of PM3 calcns. and 1H NMR studies.

IT **195705-32-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and conformation of C-methyleneribonucleosides)

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:05:23 ON 07 AUG 2000
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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DICTIONARY FILE UPDATES: 4 AUG 2000 HIGHEST RN 283584-30-5

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 11, 2000

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT for details.

=> d his l62-

(FILE 'HCAPLUS' ENTERED AT 13:00:32 ON 07 AUG 2000)
SAV L61 CRANE380CA/A

FILE 'REGISTRY' ENTERED AT 13:03:37 ON 07 AUG 2000

FILE 'HCAPLUS' ENTERED AT 13:04:24 ON 07 AUG 2000
SEL HIT RN L59

FILE 'REGISTRY' ENTERED AT 13:04:56 ON 07 AUG 2000
L62 99 S E1-E99
L63 16 S L62 AND L25
L64 83 S L62 NOT L63

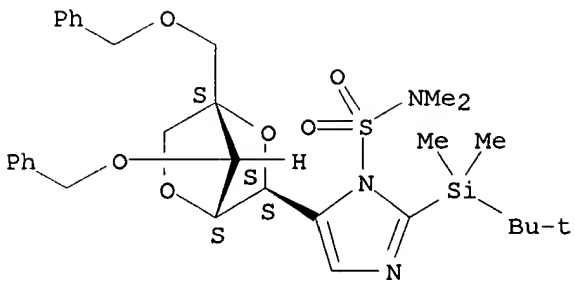
FILE 'REGISTRY' ENTERED AT 13:05:23 ON 07 AUG 2000

=> d ide can tot l63

L63 ANSWER 1 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **260434-66-0** REGISTRY
CN L-Arabinitol, 1,4:2,5-dianhydro-5-C-[1-[(dimethylamino)sulfonyl]-2-[(1,1-dimethylethyl)dimethylsilyl]-1H-imidazol-5-yl]-2-C-[(phenylmethoxy)methyl]-3-O-(phenylmethyl)-, (5S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H43 N3 O6 S Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

dist cmpds for refs 1-8, applicants

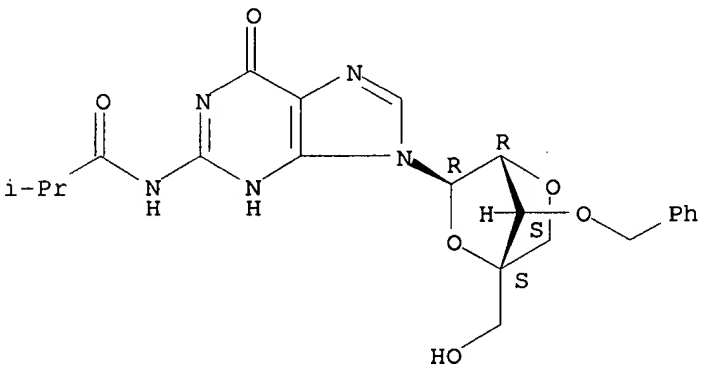


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:208082

L63 ANSWER 2 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-86-0** REGISTRY
CN Guanosine, 2'-O,4'-C-methylene-N-(2-methyl-1-oxopropyl)-3'-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C22 H25 N5 O6
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

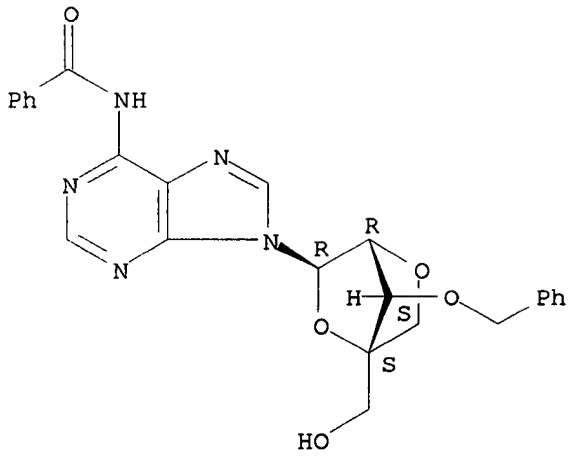


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 3 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-85-9** REGISTRY
CN Adenosine, N-benzoyl-2'-O,4'-C-methylene-3'-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H23 N5 O5
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

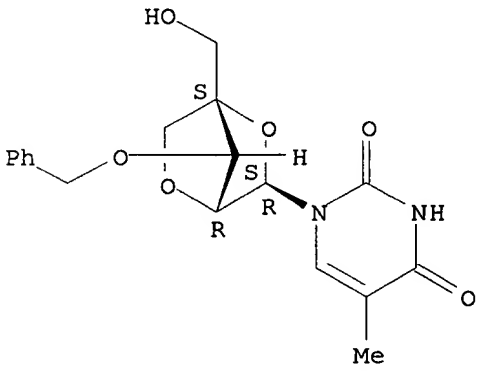


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 4 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-84-8** REGISTRY
CN Uridine, 5-methyl-2'-O,4'-C-methylene-3'-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C18 H20 N2 O6
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

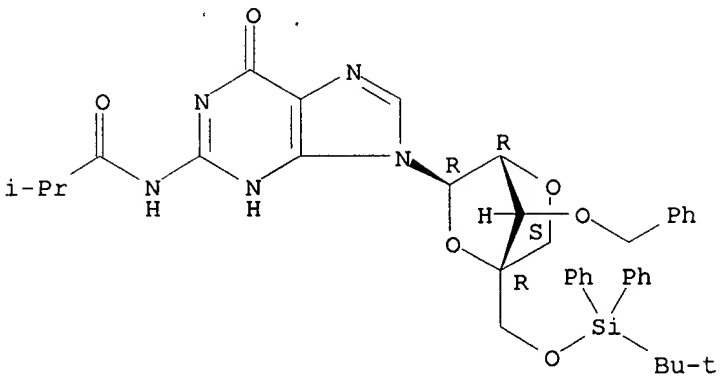


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 5 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-83-7** REGISTRY
CN Guanosine, 5'-O-[(1,1-dimethylethyl)diphenylsilyl]-2'-O,4'-C-methylene-N-(2-methyl-1-oxopropyl)-3'-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C38 H43 N5 O6 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

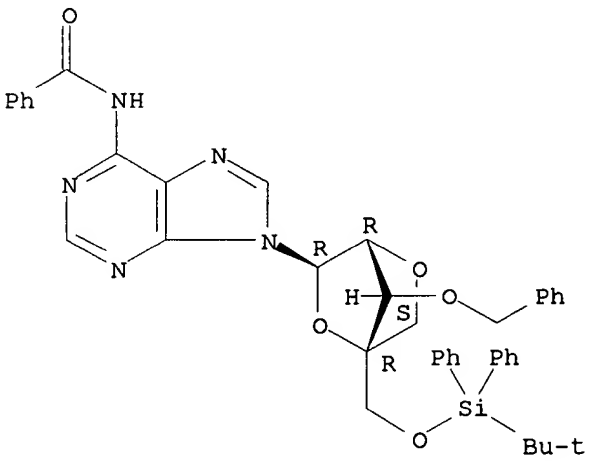


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 6 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-82-6** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[(1,1-dimethylethyl)diphenylsilyl]-2'-O,4'-C-methylene-3'-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H41 N5 O5 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

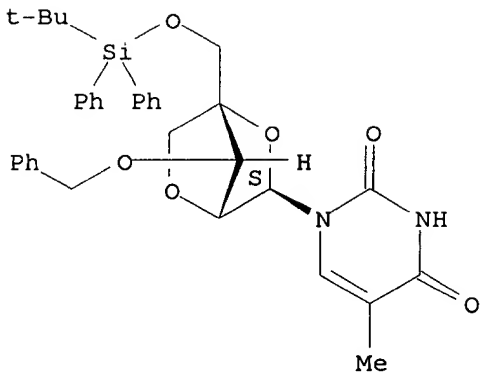


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 7 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-81-5** REGISTRY
CN Uridine, 5'-O-[(1,1-dimethylethyl)diphenylsilyl]-5-methyl-2'-O,4'-C-methylene-3'-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C34 H38 N2 O6 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry. Rotation (+).

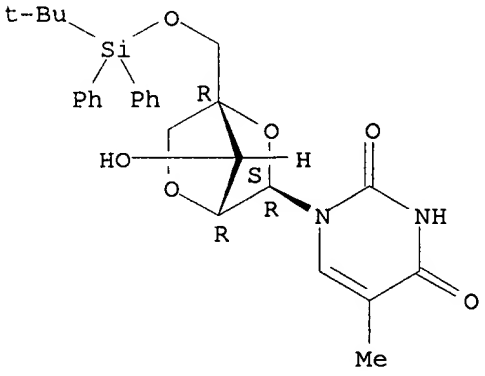


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 8 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **212970-71-3** REGISTRY
CN Uridine, 5'-O-[(1,1-dimethylethyl)diphenylsilyl]-5-methyl-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H32 N2 O6 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

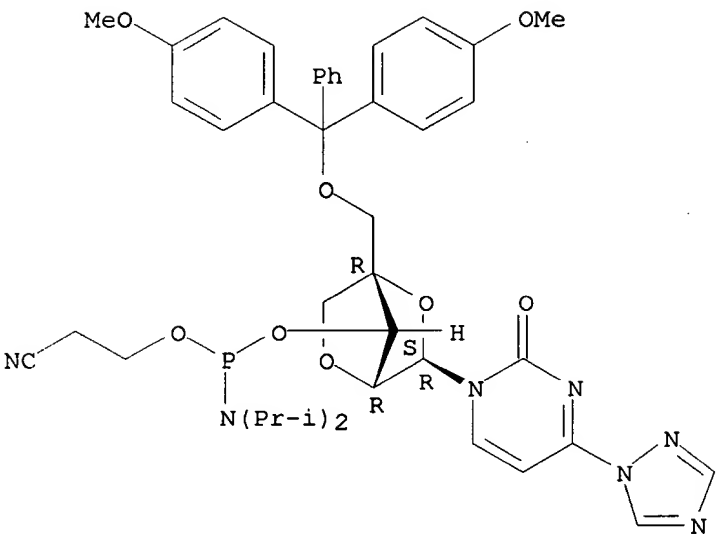


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:245421

L63 ANSWER 9 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **211935-22-7** REGISTRY
CN 2(1H)-Pyrimidinone, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-.alpha.-L-lyxofuranosyl]-4-(1H-1,2,4-triazol-1-yl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C42 H48 N7 O8 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

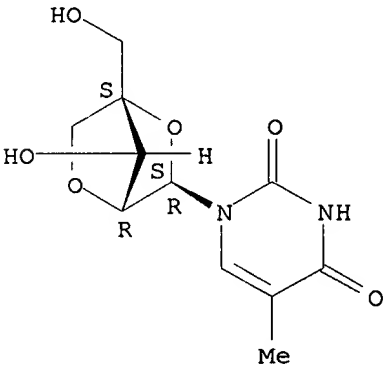


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:216849

L63 ANSWER 10 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **206055-67-6** REGISTRY
CN Uridine, 5-methyl-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C11 H14 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry. Rotation (+).



7 REFERENCES IN FILE CA (1967 TO DATE)
7 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:157908

REFERENCE 2: 130:252609

REFERENCE 3: 130:125331

REFERENCE 4: 129:245421

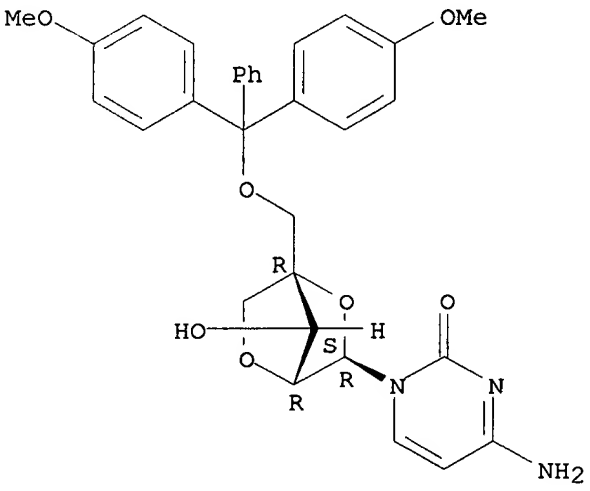
REFERENCE 5: 129:109295

REFERENCE 6: 129:1792

REFERENCE 7: 128:308697

L63 ANSWER 11 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **200435-96-7** REGISTRY
CN 2(1H)-Pyrimidinone, 4-amino-1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H31 N3 O7
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

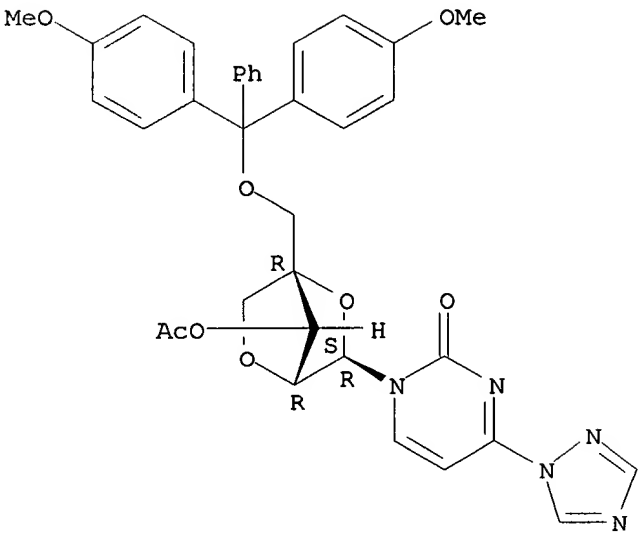


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:61733

L63 ANSWER 12 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **200435-95-6** REGISTRY
CN 2(1H)-Pyrimidinone, 1-[3-O-acetyl-2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-lyxofuranosyl]-4-(1H-1,2,4-triazol-1-yl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H33 N5 O8
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

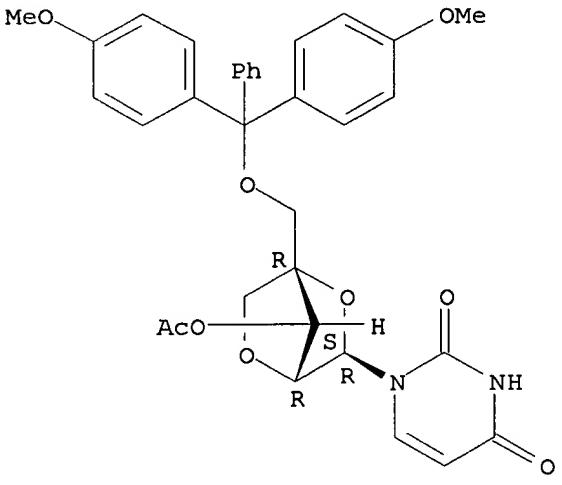


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:61733

L63 ANSWER 13 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **200435-94-5** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[3-O-acetyl-2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C33 H32 N2 O9
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



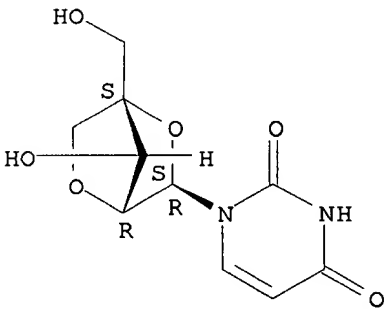
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:61733

L63 ANSWER 14 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **200435-92-3** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-(hydroxymethyl)-.alpha.-L-

lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C10 H12 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry. Rotation (+).



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

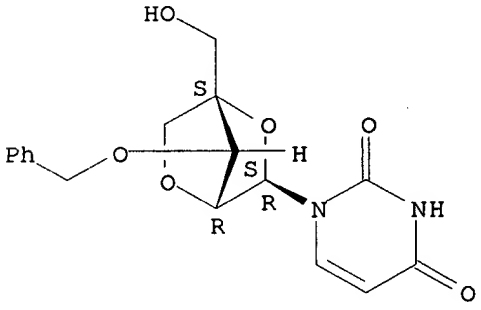
REFERENCE 2: 129:245421

REFERENCE 3: 128:308697

REFERENCE 4: 128:61733

L63 ANSWER 15 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **200435-91-2** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-(hydroxymethyl)-3-O-(phenylmethyl)-.alpha.-L-lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C17 H18 N2 O6
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry. Rotation (+).



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

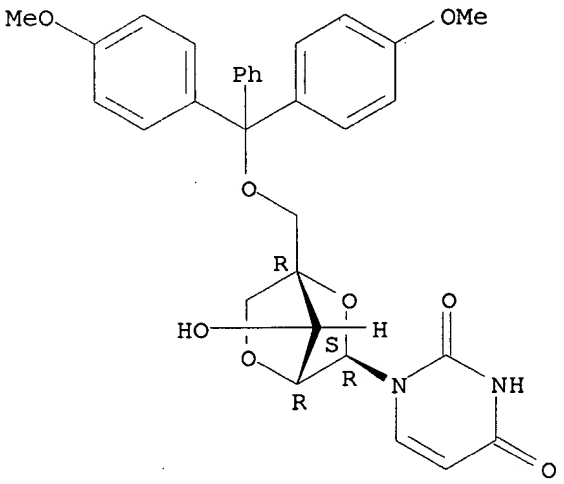
REFERENCE 1: 129:245421

REFERENCE 2: 128:61733

L63 ANSWER 16 OF 16 REGISTRY COPYRIGHT 2000 ACS
RN **195705-32-9** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-

methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H30 N2 O8
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry. Rotation (+).



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 129:245421

REFERENCE 3: 129:216849

REFERENCE 4: 128:308697

REFERENCE 5: 128:61733

REFERENCE 6: 127:248347

=> d sca

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(G-C-G-(2'-O,4'-C-methylene)rU-(2'-O,4'-C-methylene)rU-(2'-O,4'-C-methylene)rU-(2'-O,4'-C-methylene)rU-(2'-O,4'-C-methylene)rU-G-C-T) (9CI)
SQL 12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

FYI: from applicants. refs 1-8 - structurally unsearchable

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(A-G-C-A-A-A-A-A-C-G-C), complex with DNA d(G-C-G-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-T-T-T-T-G-C-T) (1:1) (9CI)
SQL 24,12,12

MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(G-C-G-(3'-O,4'-C-methylene)m5rU-(2'.fwdarw.5')-(3'-O,4'-C-methylene)m5rU-(2'.fwdarw.5')-T-T-T-T-G-C-T), complex with RNA (A-G-C-A-A-A-A-A-A-C-G-C) (1:1) (9CI)
SQL 24,12,12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(G-C-G-T-T-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-T-T-G-C-T), complex with RNA (A-G-C-A-A-A-A-A-A-C-G-C) (1:1) (9CI)
SQL 24,12,12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(A-G-C-A-A-A-A-A-A-C-G-C), complex with DNA d(G-C-G-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-T-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-T-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-T-G-C-T) (1:1) (9CI)
SQL 24,12,12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(G-C-G-T-T-T-T-T-(2'-O,4'-C-methylene)rU-G-C-T), complex with RNA (A-G-C-A-A-A-A-A-A-C-G-C) (1:1) (9CI)
SQL 24,12,12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(A-G-C-A-A-A-A-A-A-C-G-C), complex with DNA d(G-C-G-T-T-T-T-(3'-O,4'-C-methylene)m5rU-(2'.fwdarw.5')-(3'-O,4'-C-methylene)m5rU-(2'.fwdarw.5')-G-C-T) (1:1) (9CI)
SQL 24,12,12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(A-G-C-A-A-A-A-A-A-C-G-C), complex with DNA d(G-C-G-T-T-T-T-T-(2'-O,4'-C-methylene)rU-G-C-T) (1:1) (9CI)
SQL 24,12,12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(C-G-A-T-C-T-C-T-C-T-C-T-C-T-T-T-T-T-A-G-C), complex with DNA d(G-C-T-A-A-A-A-A-G-A-G-A-G-A-G-A-T-C-G) and DNA d(T-T-T-T-T-C-T-[1'-de(6-amino-9H-purin-9-yl)-2'-O,4'-C-methylene-1'-(2-phenyl-5-oxazolyl)]rA-T-C-T-C-T-C-T) (1:1:1) (9CI)
SQL 57,21,21,15
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(G-C-G-T-T-T-(2'-O,4'-C-methylene)rU-T-T-G-C-T) (9CI)
SQL 12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

L65 82 ANSWERS REGISTRY COPYRIGHT 2000 ACS
IN DNA, d(G-C-G-T-T-T-T-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-(3'-O,4'-C-methylene)rU-(2'.fwdarw.5')-G-C-T) (9CI)
SQL 12
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> d bib abs hitrn tot

L66 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 2000:125446 HCAPLUS
DN 132:293971
TI Oligonucleotides containing novel 4'-C- or 3'-C-(aminoalkyl)-branched thymidines
AU Pfundheller, Henrik M.; Bryld, Torsten; Olsen, Carl E.; Wengel, Jesper
CS Department of Chemistry, University of Southern Denmark, Odense University, Odense M, DK-5230, Den.
SO Helv. Chim. Acta (2000), 83(1), 128-151
CODEN: HCACAV; ISSN: 0018-019X
PB Verlag Helvetica Chimica Acta
DT Journal
LA English
AB The synthesis of four novel 3'-C-branched and 4'-C-branched nucleosides and their transformation into the corresponding 3'-O-phosphoramidite building blocks for automated oligonucleotide synthesis is reported. The 4'-C-branched key intermediate 11 was synthesized by a convergent strategy and converted to its 2'-O-Me and 2'-deoxy-2'-fluoro derivs., leading to the prepn. of novel oligonucleotide analogs contg. 4'-C-(aminomethyl)-2'-O-Me monomer X and 4'-C-(aminomethyl)-2'-deoxy-2'-fluoro monomer Y. In general, increased binding affinity towards complementary single-stranded DNA and RNA was obtained with these analogs compared to the unmodified refs. The presence of monomer X or monomer Y in a 2'-O-methyl-RNA oligonucleotide had a neg. effect on the binding affinity of the 2'-O-methyl-RNA oligonucleotide towards DNA and RNA. Starting from the

3'-C-allyl deriv. 28, 3'-C-(3-aminopropyl)-protected nucleosides and 3'-O-phosphoramidite derivs. were synthesized, leading to novel oligonucleotide analogs contg. 3'-C-(3-aminopropyl)thymidine monomer Z or the corresponding 3'-C-(3-aminopropyl)-2'-O,5-dimethyluridine monomer W. Incorporation of the 2'-deoxy monomer Z induced no significant changes in the binding affinity towards DNA but decreased binding affinity towards RNA, while the 2'-O-Me monomer Z induced decreased binding affinity towards DNA as well as RNA complements.

IT **206055-62-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of oligonucleotides contg. or 4'-C- or 3'-C-(aminoalkyl)-branched thymidines)

RE.CNT 62
RE
(1) Bannwarth, W; Helv Chim Acta 1987, V70, P175 HCAPLUS
(3) Bevierre, M; Bioorg Med Chem Lett 1994, V4, P237 HCAPLUS
(4) Buff, R; Bioorg Med Chem Lett 1998, V8, P521 HCAPLUS
(5) Cox, D; J Org Chem 1984, V49, P3216 HCAPLUS
(6) Cummins, L; Nucleic Acids Res 1995, V23, P2019 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L66 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1999:448625 HCAPLUS
DN 131:157908
TI A new synthetic approach towards .alpha.- and .beta.-LNA (locked nucleic acids)
AU Nielsen, Poul; Wengel, Jesper
CS Department of Chemistry, Odense University, Odense M, DK-5230, Den.
SO Nucleosides Nucleotides (1999), 18(4 & 5), 701-702
CODEN: NUNUD5; ISSN: 0732-8311
PB Marcel Dekker, Inc.
DT Journal
LA English
AB A bicyclo[2.2.1] Ph thioglycoside was efficiently synthesized and introduced as the key synthon in a novel method for convergent synthesis of .beta.-LNA-nucleosides as well as their .alpha.-configurated isomers. An acid-induced ring-opening reaction on the corresponding bicyclo[2.2.1] Me furanoside is also described.

IT **206055-62-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of bicyclo phenylthioglycoside as synthons in convergent synthesis of .alpha.- and .beta.-locked nucleic acids)

IT **206055-67-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of bicyclo phenylthioglycoside as synthons in convergent synthesis of .alpha.- and .beta.-locked nucleic acids)

RE.CNT 5
RE
(1) Koshkin, A; Tetrahedron 1998, V54, P3607 HCAPLUS
(2) Koshkin, A; Tetrahedron Lett 1998, V39, P4381 HCAPLUS
(3) Obika, S; Tetrahedron Lett 1997, V38, P8735 HCAPLUS
(4) Singh, S; Chem Commun 1998, P455 HCAPLUS
(5) Waga, T; Biosci Biotech Biochem 1993, V57, P1433 HCAPLUS

L66 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1999:447127 HCAPLUS
DN 131:299644
TI LNA stereoisomers: xylo-LNA (.beta.-D-xylo configured locked nucleic acid) and .alpha.-L-LNA (.alpha.-L-ribo configured locked nucleic acid)
AU Rajwanshi, Vivek K.; Hakansson, Anders E.; Dahl, Britta M.; Wengel, Jesper
CS Department of Chemistry, Center for Synthetic Bioorganic Chemistry, University of Copenhagen, Copenhagen, Den.
SO Chem. Commun. (Cambridge) (1999), (15), 1395-1396
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal

LA English.
AB Synthesis of xylo-LNA contg. one 2'-O,4'-C-methylene-.beta.-D-xylofuranosyl thymine nucleotide monomer and .alpha.-L-LNAs contg. one or four 2'-O,4'-C-methylene-.alpha.-L-ribofuranosyl thymine nucleotide monomer(s) has been accomplished using phosphoramidite chem. with pyridine hydrochloride as activator; oligothymidylate .alpha.-L-LNA displays strongly enhanced affinity towards complementary RNA.
IT **230631-22-8**
RL: RCT (Reactant)
(prepn. of .beta.-D-xylo and .alpha.-L-ribo configured locked nucleic acid duplexes)
IT **245366-55-6P 245366-56-7P 245366-57-8P 245366-58-9P 245366-59-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of .beta.-D-xylo and .alpha.-L-ribo configured locked nucleic acid duplexes)
RE.CNT 18
RE
(1) Caruthers, M; Acc Chem Res 1991, V24, P278 HCAPLUS
(2) Greiner, B; Helv Chim Acta 1998, V81, P1528 HCAPLUS
(3) Gryaznov, S; Nucleic Acids Res 1992, V20, P1879 HCAPLUS
(5) Koshkin, A; J Am Chem Soc 1998, V120, P13252 HCAPLUS
(6) Koshkin, A; Tetrahedron 1998, V54, P3607 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

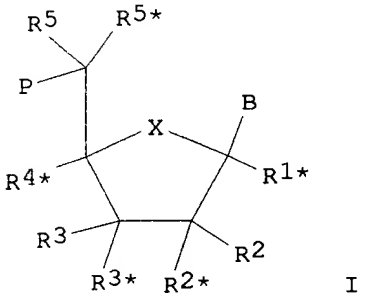
L66 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1999:333919 HCAPLUS
DN 131:102484
TI Synthesis and restricted furanose conformations of three novel bicyclic thymine nucleosides: a xylo-LNA nucleoside, a 3'-O,5'-C-methylene-linked nucleoside, and a 2'-O,5'-C-methylene-linked nucleoside
AU Rajwanshi, Vivek K.; Kumar, Ravindra; Kofod-Hansen, Mikael; Wengel, Jesper
CS Department of Chemistry, Center for Synthetic Bioorganic Chemistry, University of Copenhagen, Copenhagen, DK-2100, Den.
SO J. Chem. Soc., Perkin Trans. 1 (1999), (11), 1407-1414
CODEN: JCPRB4; ISSN: 0300-922X
PB Royal Society of Chemistry
DT Journal
LA English
AB The xylo-LNA nucleoside 1-(2-O,4-C-methylene-.beta.-D-xylofuranosyl)thymine and the 2'-O,5'-C-methylene linked nucleoside 1-(2,6-anhydro-.beta.-D-altrofuranosyl)thymine were obtained in overall yields of 13% (8 steps) and 31% (7 steps) starting from furanose derivs. In the synthesis of 3'-O,5'-C-methylene-linked nucleoside derivs., cyclization by intramol. attack from the 6-hydroxy group on the 3-keto functionality to give C-3-hemiketal furanose and its subsequent transformation into the nucleoside proved very efficient. It was, however, impossible to isolate the debenzylated 2'-hydroxy, 2'-O-Me and 2'-O-tert-butyldimethylsilyl derivs. in anal. pure form. Soln.-phase conformational anal. showed the some bicyclic nucleosides to exist predominantly in an N-type furanose conformation and some bicyclic nucleotides to adopt an S-type conformation.
IT **230631-21-7P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and restricted furanose conformations of three novel bicyclic thymine nucleosides)
IT **230631-22-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and restricted furanose conformations of three novel bicyclic thymine nucleosides)
RE.CNT 35
RE
(1) Altmann, K; Tetrahedron Lett 1994, V35, P2331 HCAPLUS
(2) Altona, C; J Am Chem Soc 1972, V94, P8205 HCAPLUS
(3) Altona, C; J Am Chem Soc 1973, V95, P2333 HCAPLUS

(4) Caruthers, M; Acc Chem Res 1991, V24, P278 HCAPLUS
(5) Christensen, N; J Am Chem Soc 1998, V120, P5458 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L66 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1999:216926 HCAPLUS
DN 130:252609
TI Preparation of locked nucleoside analogs-containing oligodeoxyribonucleotide duplexes as substrates for nucleic acid polymerases
IN Wengel, Jesper; Nielsen, Poul
PA Exiqon A/S, Den.
SO PCT Int. Appl., 269 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9914226	A2	19990325	WO 1998-DK393	19980914
	WO 9914226	A3	19990805		
	W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9890633	A1	19990405	AU 1998-90633	19980914
	EP 1015469	A2	20000705	EP 1998-942516	19980914
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRAI DK 1997-1054 19970912
DK 1997-1492 19971219
DK 1998-61 19980116
DK 1998-286 19980303
DK 1998-585 19980429
US 1998-88309 19980605
DK 1998-750 19980608
DK 1998-982 19980728
WO 1998-DK393 19980914
OS MARPAT 130:252609
GI



I

AB Bicyclic and tricyclic nucleoside and nucleotide analogs were prepd. as well as oligodeoxyribonucleotides comprising such elements I (B is selected from hydrogen, hydroxy, alkoxy, alkyl, acyloxy, nucleobases, DNA intercalators; P designates the radical position for an internucleoside linkage to a succeeding monomer, or a 5'-terminal group, such

internucleoside linkage or 5'-terminal group optionally including the substituent R5; X is selected from O, S, substituted N, substituted C; R1, R1*, R2, R2*, R3, R3*, R4*, R5, R5*, are biradical(s), independently selected from hydrogen, alkyl, alkenyl, alkynyl, hydroxy, alkoxy, alkenyloxy, carboxy, alkoxycarbonyl, alkylcarbonyl, formyl, aryl, aryloxy-carbonyl, aryloxy, arylcarbonyl, heteroaryl, carbamido, alkanoyloxy, sulfono, alkylsulfonyloxy, nitro, azido, sulphanyl, alkylthio, halogen, DNA intercalators). Thus, (1S,5R,6R,8R)-5-(2-cyanoethoxy(diisopropylamino)phosphinoxy)-6-(4,4'-dimethoxytrityloxymethyl)-8-(thymin-1-yl)-2,7-dioxabicyclo[3.3.0]nonane was prepd. and incorporated into oligodeoxyribonucleotides. The nucleotide analogs, LNAs (Locked Nucleoside Analogs), are able to provide valuable improvements to oligonucleotides with respect to affinity and specificity towards complementary RNA and DNA oligomers. The novel type of LNA modified oligonucleotides, as well as the LNAs as such, are useful in a wide range of diagnostic applications as well as therapeutic applications. Among these can be mentioned antisense applications, PCR applications, strand displacement oligomers, as substrates for nucleic acid polymerases, as nucleotide based drugs, etc.

IT **219854-50-9P 219854-53-2P 221229-74-9P**
RL: BPR (Biological process); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(prepn. of locked nucleoside analogs-contg. oligodeoxyribonucleotide duplexes as substrates for nucleic acid polymerases)

IT **195705-32-9P 200435-92-3P 206055-62-1P**
206055-63-2P 206055-64-3P 206055-65-4P
206055-66-5P 206055-67-6P 206055-68-7P
206055-69-8P 206055-70-1P 206055-71-2P
206055-72-3P 206055-73-4P 206055-74-5P
206055-75-6P 206055-76-7P 206055-77-8P
206055-78-9P 206055-79-0P 206055-80-3P
206055-81-4P 206055-82-5P 209968-94-5P
221229-58-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of locked nucleoside analogs-contg. oligodeoxyribonucleotide duplexes as substrates for nucleic acid polymerases)

L66 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:744561 HCAPLUS
DN 130:125331
TI Synthesis and chemoselective activation of phenyl 3,5-di-O-benzyl-2-O,4-C-methylene-1-thio-.beta.-D-ribofuranoside: a key synthon towards .alpha.-LNA
AU Nielsen, Poul; Wengel, Jesper
CS Department of Chemistry, Odense University, Odense, DK-5230, Den.
SO Chem. Commun. (Cambridge) (1998), (23), 2645-2646
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB A bicyclic thiofuranoside (Ph 3,5-di-O-benzyl-2-O,4-C-methylene-.beta.-d-ribofuranoside) was efficiently synthesized and introduced as the key synthon in a method for convergent synthesis of .alpha.- and .beta.-LNA nucleosides; acid-induced ring-opening reactions of the corresponding bicyclic Me furanoside are also described.

IT **219854-50-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and chemoselective activation of Ph 3,5-di-O-benzyl-2-O,4-C-methylene-1-thio-.beta.-D-ribofuranoside, a key synthon towards .alpha.-LNA)

IT **206055-67-6P 219854-53-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and chemoselective activation of Ph 3,5-di-O-benzyl-2-O,4-C-methylene-1-thio-.beta.-D-ribofuranoside, a key synthon towards .alpha.-LNA)

RE.CNT 20
RE
(1) Chanteloup, L; Tetrahedron Lett 1992, V33, P5347 HCAPLUS
(3) Fugedi, P; Glycoconjugate J 1987, V4, P97 HCAPLUS
(4) Gagnor, C; Nucleic Acids Res 1987, V15, P10419 HCAPLUS
(5) Herdewijn, P; Liebigs Ann 1996, P1337 HCAPLUS
(7) Kahne, D; J Am Chem Soc 1989, V111, P6881 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L66 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:355933 HCAPLUS
DN 129:109295
TI Novel convenient syntheses of LNA [2.2.1]bicyclo nucleosides
AU Koshkin, Alexei A.; Rajwanshi, Vivek K.; Wengel, Jesper
CS Dep. Chem., Chemical Lab. II, Univ. Copenhagen, Copenhagen, DK-2100, Den.
SO Tetrahedron Lett. (1998), 39(24), 4381-4384
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
AB LNA (Locked Nucleic Acids) is a novel oligonucleotide analog contg. [2.2.1]bicyclo nucleoside monomers. A novel and significantly improved method for convergent synthesis of LNA [2.2.1]bicyclo nucleosides using a 4-C-tosyloxymethyl-1,2-di-O-acetyl furanose as a key synthon is described. In addn., an alternative, robust linear approach allowing selective formation of the desired [2.2.1]bicyclo LNA nucleosides via a tricyclic nucleoside intermediate is introduced.
IT **206055-62-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(novel convenient prepn. of LNA [2.2.1]bicyclo nucleosides)
IT **206055-67-6P 209968-94-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(novel convenient prepn. of LNA [2.2.1]bicyclo nucleosides)

L66 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:213091 HCAPLUS
DN 128:308697
TI LNA (locked nucleic acids): synthesis of the adenine, cytosine, guanine, 5-methylcytosine, thymine and uracil bicyclonucleoside monomers, oligomerization, and unprecedented nucleic acid recognition
AU Koshkin, Alexei A.; Singh, Sanjay K.; Nielsen, Poul; Rajwanshi, Vivek K.; Kumar, Ravindra; Meldgaard, Michael; Olsen, Carl Erik; Wengel, Jesper
CS Department of Chemistry, University of Copenhagen, Copenhagen, DK-2100, Den.
SO Tetrahedron (1998), 54(14), 3607-3630
CODEN: TETRAB; ISSN: 0040-4020
PB Elsevier Science Ltd.
DT Journal
LA English
AB LNA (Locked Nucleic Acids), consisting of 2'-O,4'-C-methylene bicyclonucleoside monomers, is efficiently synthesized and its nucleic acid recognition potential evaluated for six different nucleobases, namely adenine, cytosine, guanine, 5-methylcytosine, thymine and uracil. Unprecedented increases (+3 to +8 .degree.C per modification) in the thermal stability of duplexes towards both DNA and RNA were obtained when evaluating mixed sequences of partly or fully modified LNA. Studies of mis-matched sequences show that LNA obey the Watson-Crick base pairing rules with generally improved selectivities compared to the corresponding unmodified ref. strands.
IT **195705-32-9P 200435-92-3P 206055-62-1P**
206055-63-2P 206055-64-3P 206055-65-4P
206055-66-5P 206055-67-6P 206055-68-7P
206055-69-8P 206055-70-1P 206055-71-2P
206055-72-3P 206055-73-4P 206055-74-5P
206055-75-6P 206055-76-7P 206055-77-8P
206055-78-9P 206055-79-0P 206055-80-3P

206055-81-4P 206055-82-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and thermal stability of locked nucleic acids (LNA) duplexes)

L66 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:164474 HCAPLUS
DN 129:1792
TI LNA (locked nucleic acids): synthesis and high-affinity nucleic acid recognition
AU Singh, Sanjay K.; Nielsen, Poul; Koshkin, Alexei A.; Wengel, Jesper
CS Dep. Chem., Univ. Copenhagen, Copenhagen, DK-2100, Den.
SO Chem. Commun. (Cambridge) (1998), (4), 455-456
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB A novel class of nucleic acid analogs, termed LNA (locked nucleic acids), is introduced. Following the Watson-Crick base pairing rules, LNA forms duplexes with complementary DNA and RNA with remarkably increased thermal stabilities and generally improved selectivities.
IT **206055-62-1P 206055-67-6P 206055-75-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of locked nucleic acids)
IT **207350-34-3 207350-35-4**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(thermal stabilities of LNA duplexes formed with complementary DNA and RNA)
IT **207131-15-5P 207131-16-6P 207131-17-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(thermal stabilities of LNA duplexes formed with complementary DNA and RNA)

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DICTIONARY FILE UPDATES: 4 AUG 2000 HIGHEST RN 283584-30-5

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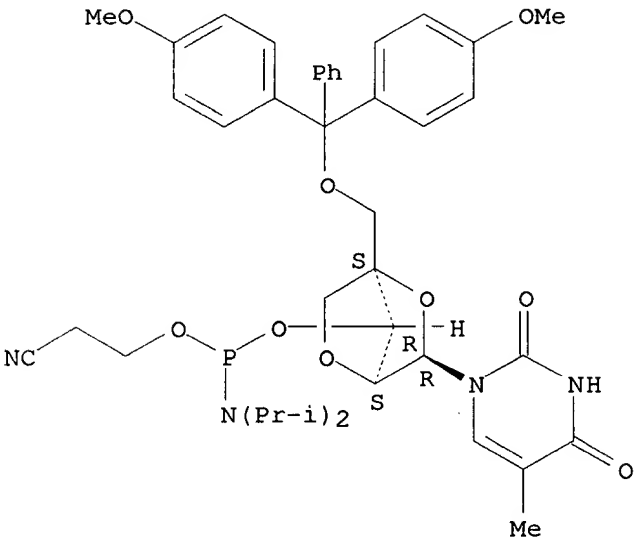
Structure search limits have been increased. See HELP SLIMIT for details.

=> d ide can tot

L67 ANSWER 1 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **245366-59-0** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-.beta.-D-lyxofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H49 N4 O9 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

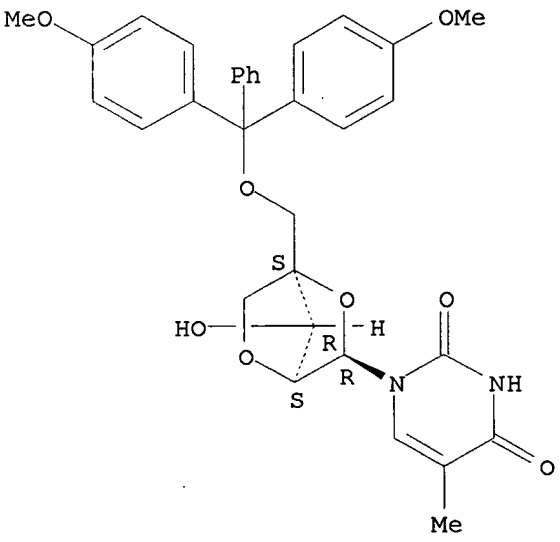


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299644

L67 ANSWER 2 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **245366-58-9** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.beta.-D-lyxofuranosyl]-5-methyl-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H32 N2 O8
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

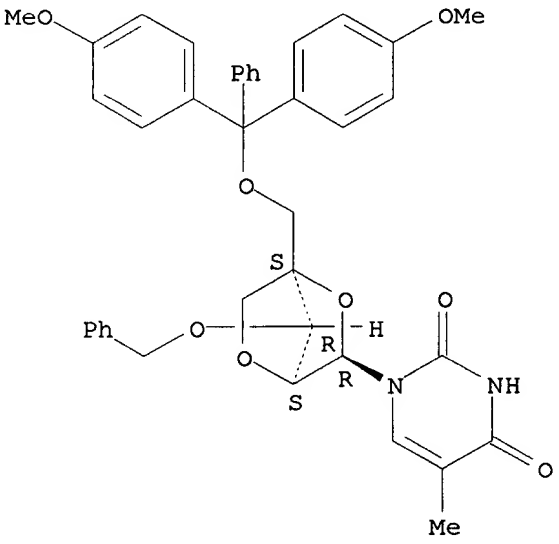


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299644

L67 ANSWER 3 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **245366-57-8** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-3-O-(phenylmethyl)-.beta.-D-lyxofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C39 H38 N2 O8
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

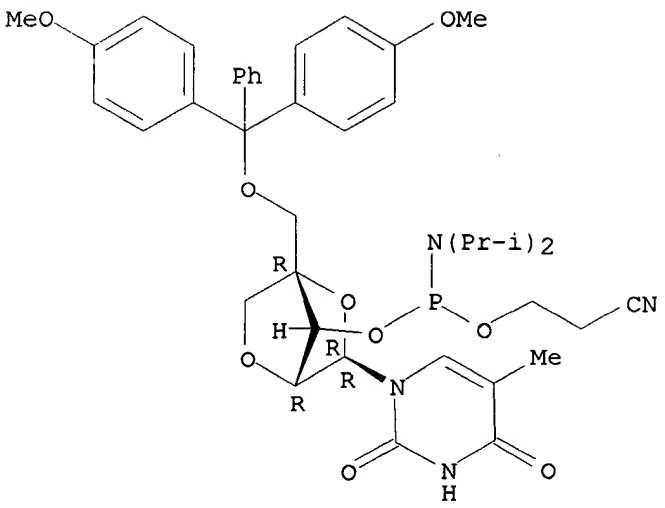


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299644

L67 ANSWER 4 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **245366-56-7** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-.alpha.-L-arabinofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H49 N4 O9 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

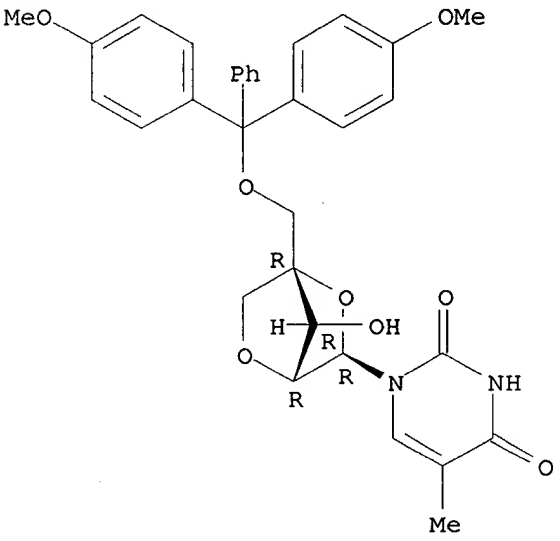


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299644

L67 ANSWER 5 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **245366-55-6** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-arabinofuranosyl]-5-methyl-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H32 N2 O8
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

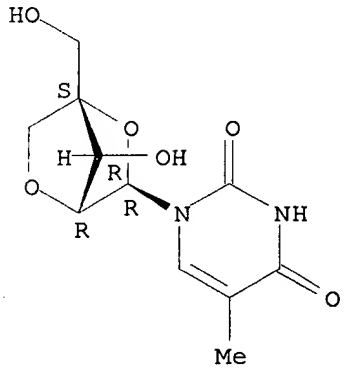


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299644

L67 ANSWER 6 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **230631-22-8** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-(hydroxymethyl)-.alpha.-L-arabinofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C11 H14 N2 O6
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



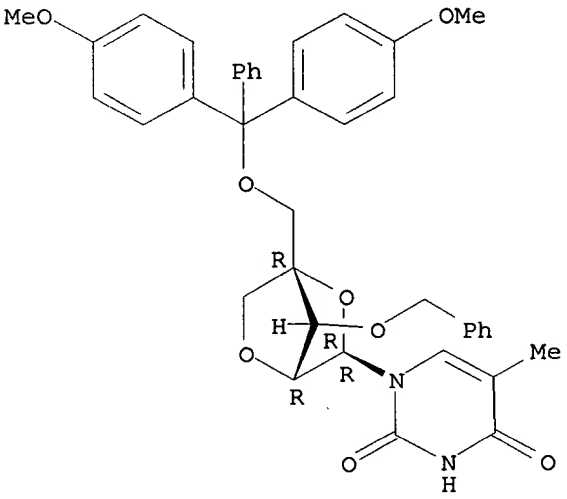
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299644

REFERENCE 2: 131:102484

L67 ANSWER 7 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **230631-21-7** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-3-O-(phenylmethyl)-.alpha.-L-arabinofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C39 H38 N2 O8
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



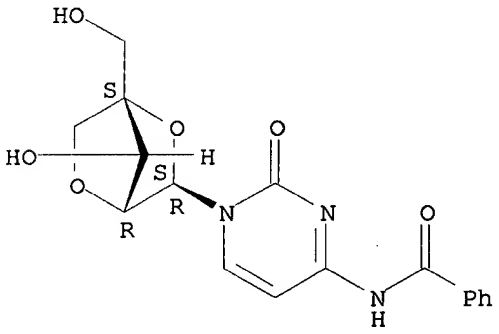
1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:102484

L67 ANSWER 8 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **221229-74-9** REGISTRY
CN Cytidine, N-benzoyl-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C17 H17 N3 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

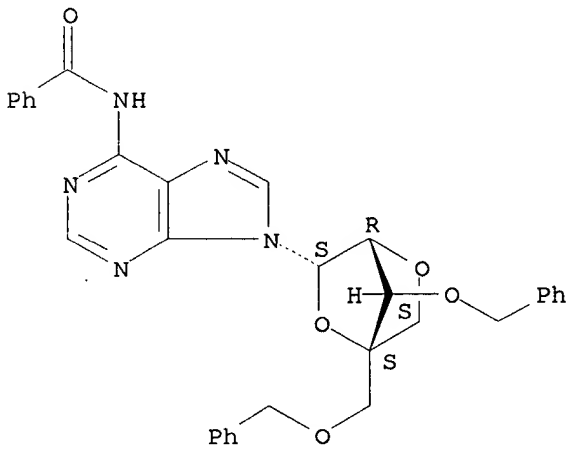


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

L67 ANSWER 9 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **221229-58-9** REGISTRY
CN Benzamide, N-[9-[2,5-anhydro-4-C-[(phenylmethoxy)methyl]-3-O-(phenylmethyl)-.beta.-L-lyxofuranosyl]-9H-purin-6-yl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H29 N5 O5
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

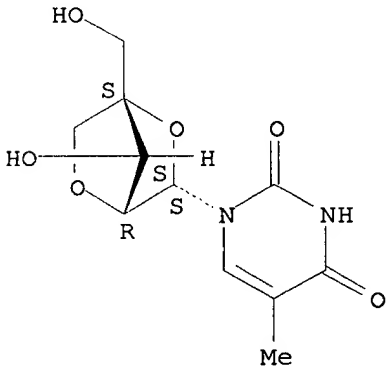


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

L67 ANSWER 10 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **219854-53-2** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-(hydroxymethyl)-.beta.-L-lyxofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C11 H14 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



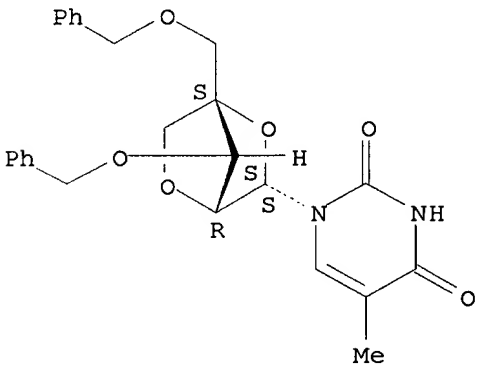
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 130:125331

L67 ANSWER 11 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **219854-50-9** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[(phenylmethoxy)methyl]-3-O-(phenylmethyl)-.beta.-L-lyxofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H26 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



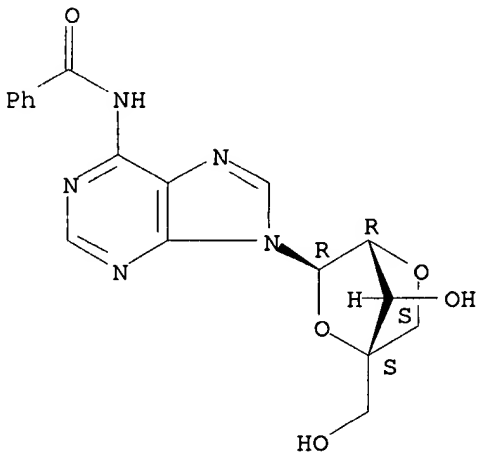
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 130:125331

L67 ANSWER 12 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **209968-94-5** REGISTRY
CN Adenosine, N-benzoyl-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C18 H17 N5 O5
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 129:109295

L67 ANSWER 13 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **207350-35-4** REGISTRY
CN RNA, (A-A-A-A-A-A-A-A-A-A-A-A-A), complex with 5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-thymidine (1:1) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Thymidine, 5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-, complex with RNA (A-A-A-A-A-A-A-A-A-A-A-A-A) (1:1) (9CI)
FS NUCLEIC ACID SEQUENCE; STEREOSEARCH
MF C140 H169 N70 O82 P13 . C65 H79 N12 O45 P5
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 207350-33-2
CMF C65 H79 N12 O45 P5

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 56174-30-2
CMF C140 H169 N70 O82 P13

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:1792

L67 ANSWER 14 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **207350-34-3** REGISTRY
CN DNA, d(A-A-A-A-A-A-A-A-A-A-A-A-A), complex with 5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-thymidine (1:1) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Thymidine, 5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-5-methyl-2'-O,4'-C-methyleneuridylyl-(3'.fwdarw.5')-, complex with DNA d(A-A-A-A-A-A-A-A-A-A-A-A-A) (1:1) (9CI)
FS NUCLEIC ACID SEQUENCE; STEREOSEARCH
MF C140 H169 N70 O68 P13 . C65 H79 N12 O45 P5
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 207350-33-2
CMF C65 H79 N12 O45 P5

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

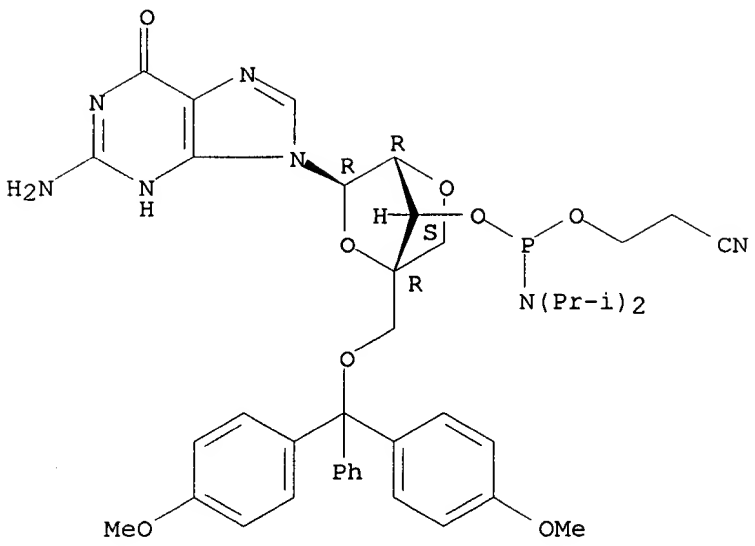
CRN 103842-30-4
CMF C140 H169 N70 O68 P13
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:1792

L67 ANSWER 15 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **207131-17-7** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H48 N7 O8 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

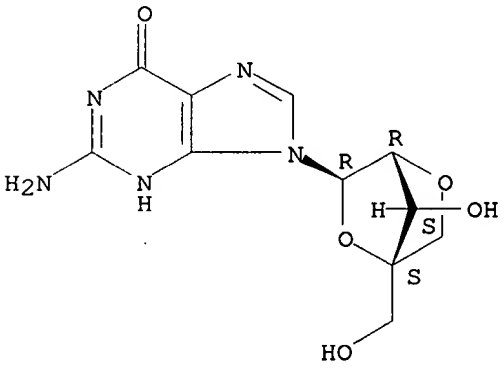


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:1792

L67 ANSWER 16 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **207131-16-6** REGISTRY
CN Guanosine, 2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C11 H13 N5 O5
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

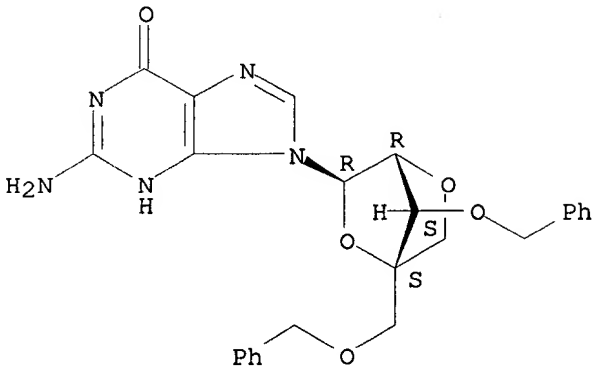


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:1792

L67 ANSWER 17 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **207131-15-5** REGISTRY
CN Guanosine, 2'-O,4'-C-methylene-3',5'-bis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H25 N5 O5
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

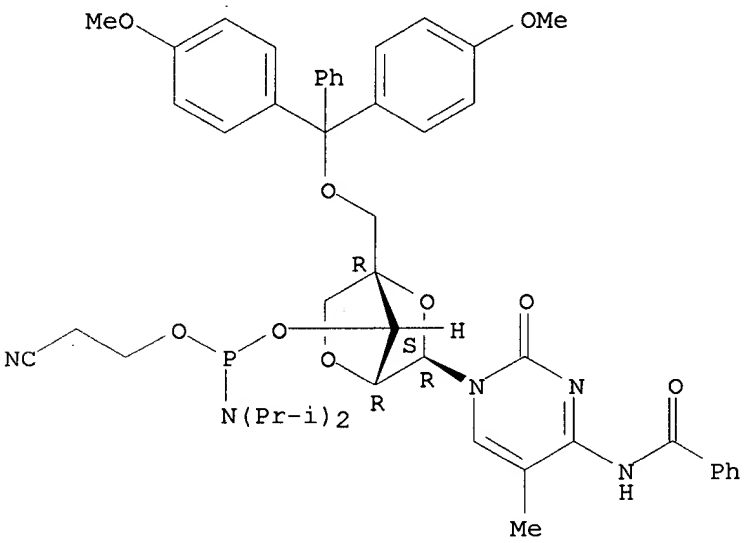


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:1792

L67 ANSWER 18 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-82-5** REGISTRY
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl-2'-O,4'-C-methylene-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C48 H54 N5 O9 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

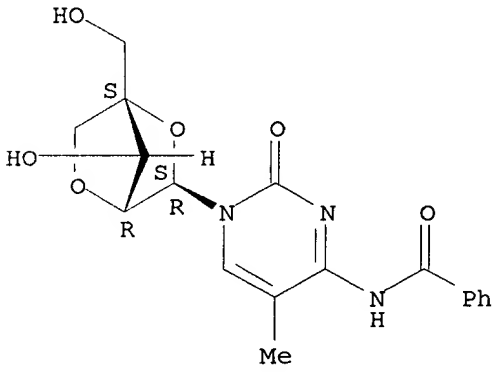
REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 19 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-81-4** REGISTRY

CN Cytidine, N-benzoyl-5-methyl-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C18 H19 N3 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



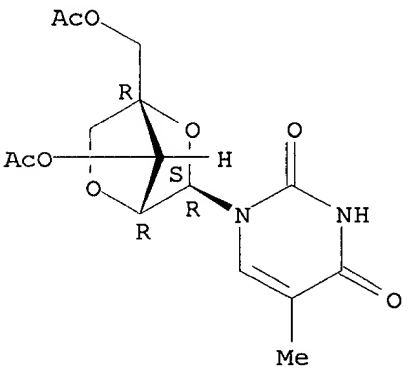
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 20 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-80-3** REGISTRY
CN Uridine, 5-methyl-2'-O,4'-C-methylene-, 3',5'-diacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C15 H18 N2 O8
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

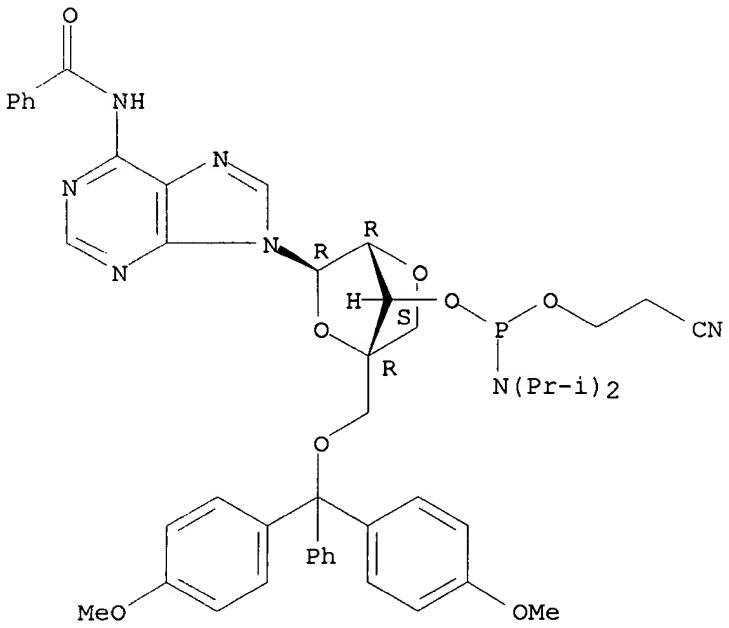
REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 21 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-79-0** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-

methylene-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C48 H52 N7 O8 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



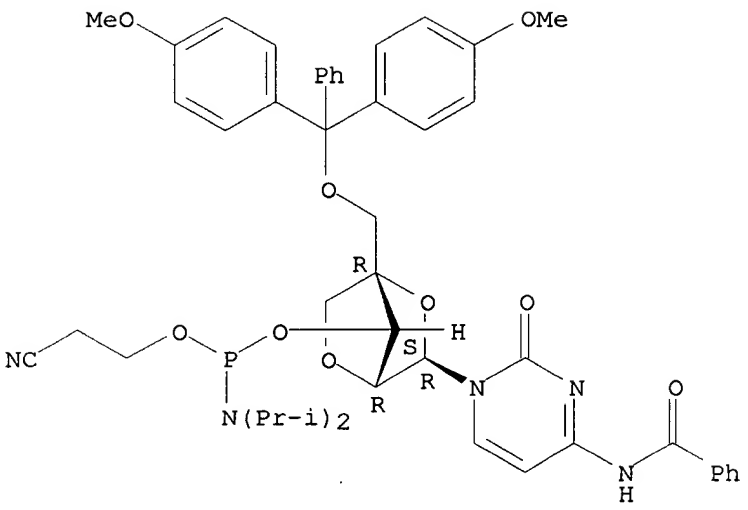
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 22 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-78-9** REGISTRY
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C47 H52 N5 O9 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



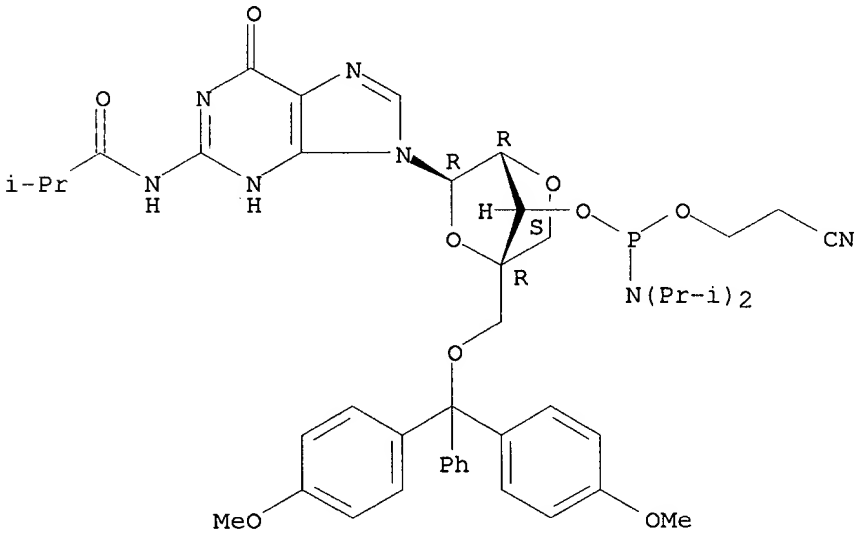
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 23 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-77-8** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene-N-(2-methyl-1-oxopropyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C45 H54 N7 O9 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



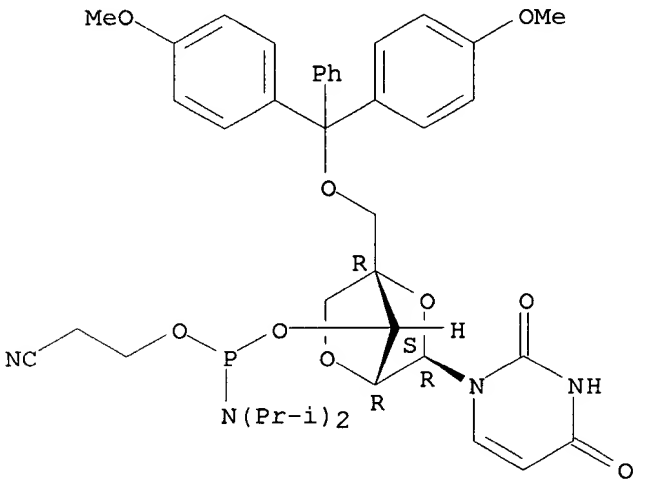
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 24 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-76-7** REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C40 H47 N4 O9 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

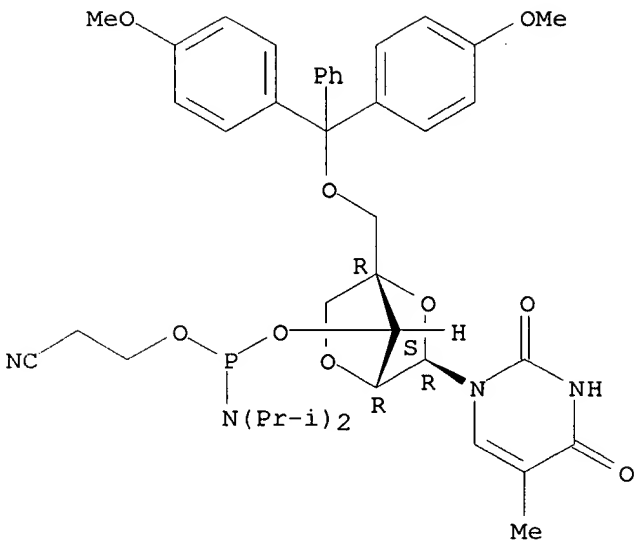
REFERENCE 2: 129:245421

REFERENCE 3: 129:216849

REFERENCE 4: 128:308697

L67 ANSWER 25 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-75-6** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-.alpha.-L-lyxofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H49 N4 O9 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

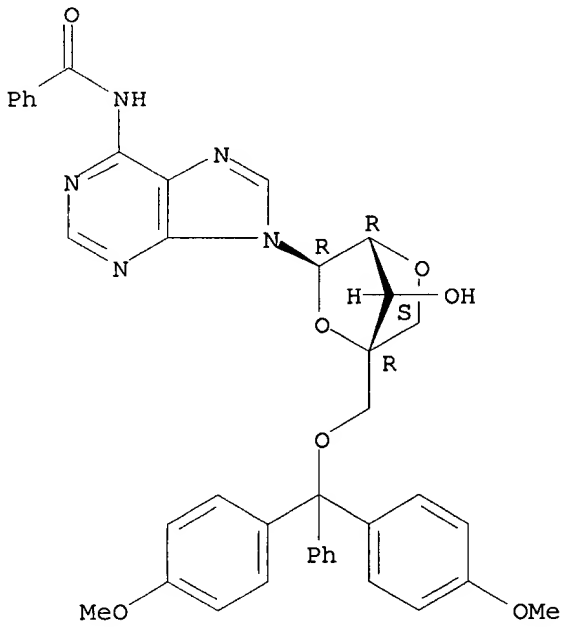
REFERENCE 1: 130:252609

REFERENCE 2: 129:1792

REFERENCE 3: 128:308697

L67 ANSWER 26 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-74-5** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C39 H35 N5 O7
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



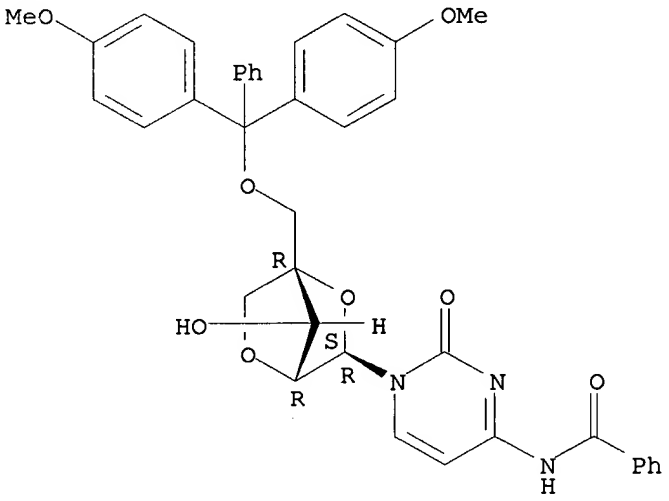
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 27 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-73-4** REGISTRY
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C38 H35 N3 O8
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



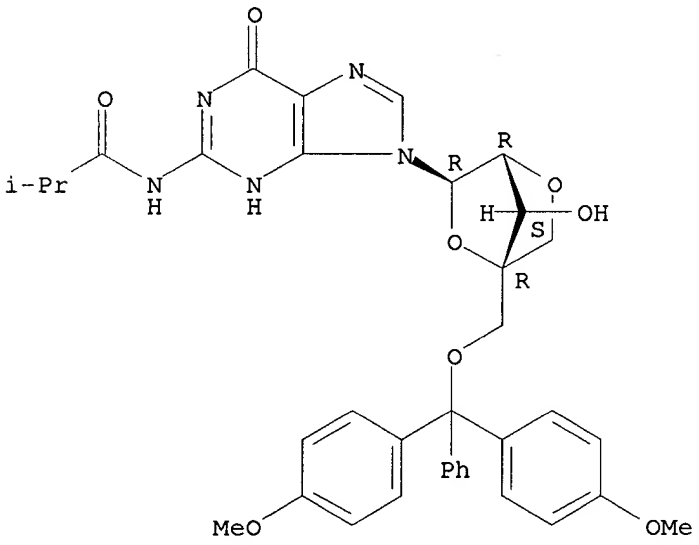
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 28 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-72-3** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O,4'-C-methylene-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C36 H37 N5 O8
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



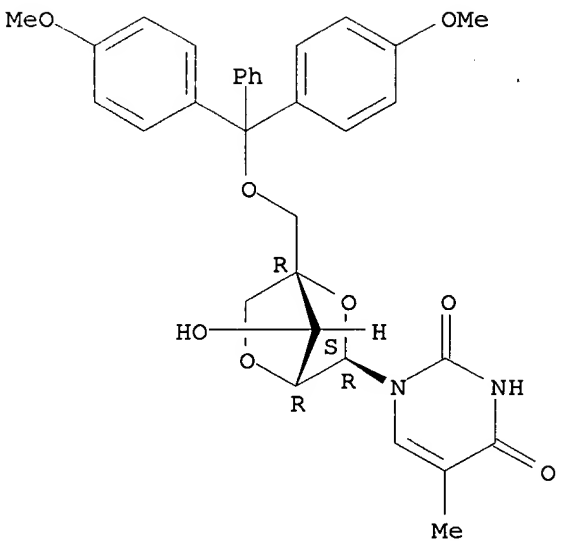
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 29 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-71-2** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-lyxofuranosyl]-5-methyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H32 N2 O8
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



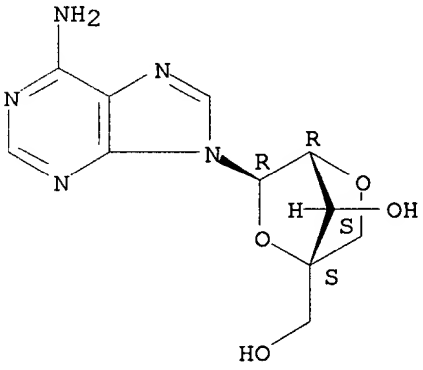
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 30 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-70-1** REGISTRY
CN Adenosine, 2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C11 H13 N5 O4
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

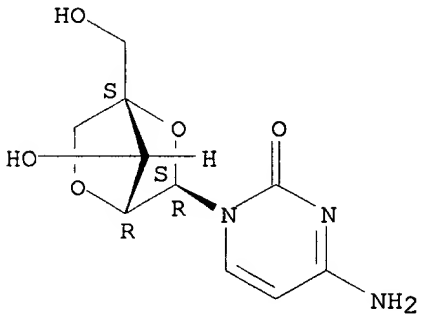
REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 31 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-69-8** REGISTRY
CN Cytidine, 2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C10 H13 N3 O5

SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



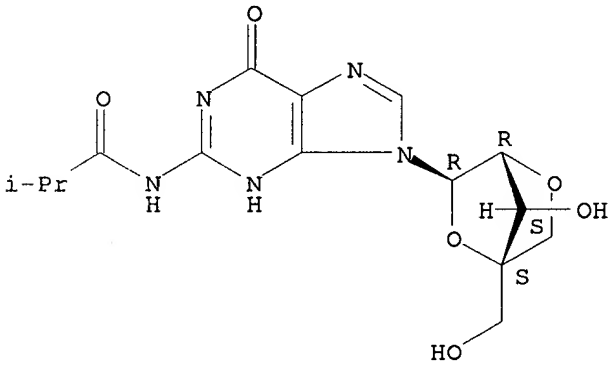
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 32 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-68-7** REGISTRY
CN Guanosine, 2'-O,4'-C-methylene-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C15 H19 N5 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



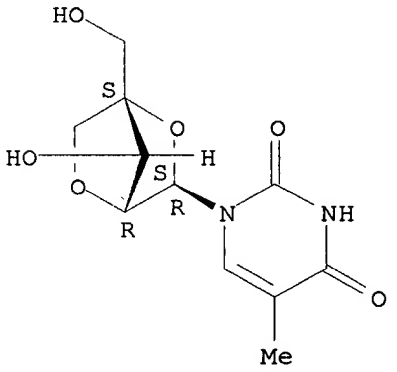
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 33 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-67-6** REGISTRY
CN Uridine, 5-methyl-2'-O,4'-C-methylene- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C11 H14 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry. Rotation (+).



7 REFERENCES IN FILE CA (1967 TO DATE)
7 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:157908

REFERENCE 2: 130:252609

REFERENCE 3: 130:125331

REFERENCE 4: 129:245421

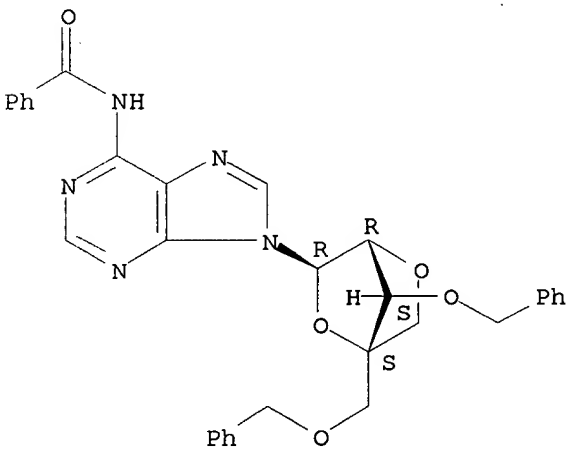
REFERENCE 5: 129:109295

REFERENCE 6: 129:1792

REFERENCE 7: 128:308697

L67 ANSWER 34 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-66-5** REGISTRY
CN Adenosine, N-benzoyl-2'-O,4'-C-methylene-3',5'-bis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H29 N5 O5
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



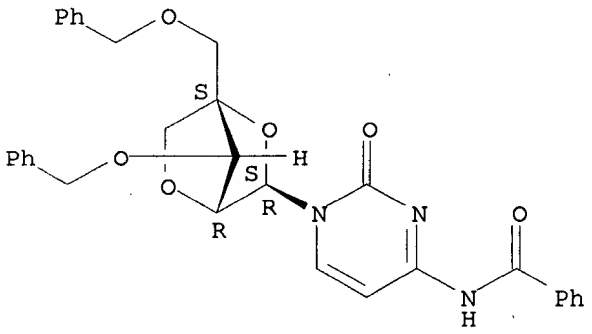
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 35 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-65-4** REGISTRY
CN Cytidine, N-benzoyl-2'-O,4'-C-methylene-3',5'-bis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H29 N3 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



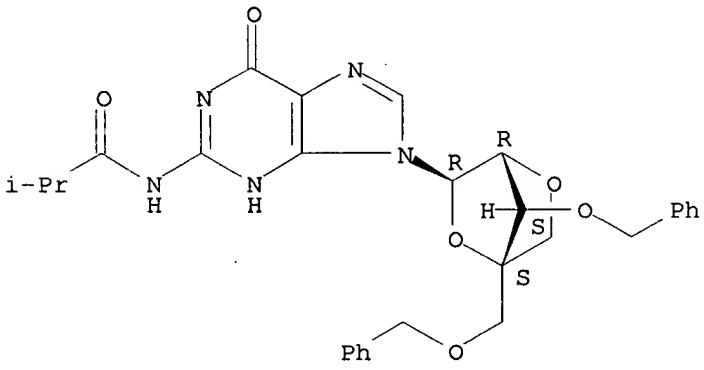
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 36 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-64-3** REGISTRY
CN Guanosine, 2'-O,4'-C-methylene-N-(2-methyl-1-oxopropyl)-3',5'-bis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C29 H31 N5 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



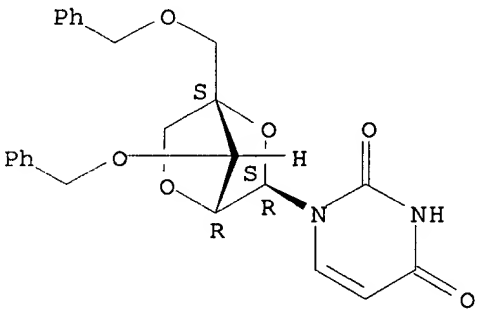
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 37 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-63-2** REGISTRY
CN Uridine, 2'-O,4'-C-methylene-3',5'-bis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C24 H24 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



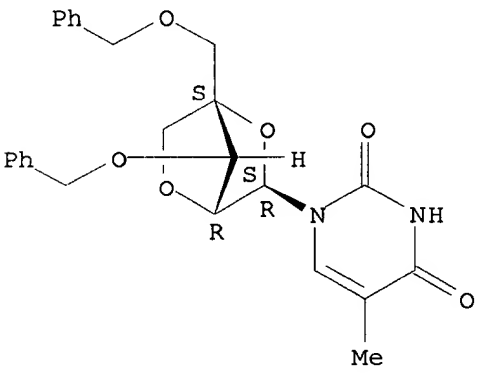
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 128:308697

L67 ANSWER 38 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **206055-62-1** REGISTRY
CN Uridine, 5-methyl-2'-O,4'-C-methylene-3',5'-bis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H26 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:293971

REFERENCE 2: 131:157908

REFERENCE 3: 130:252609

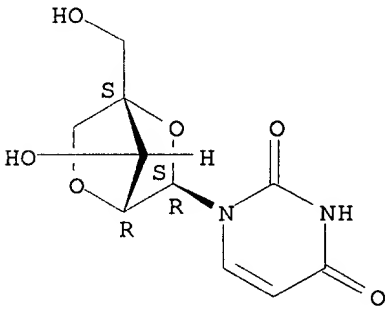
REFERENCE 4: 129:109295

REFERENCE 5: 129:1792

REFERENCE 6: 128:308697

L67 ANSWER 39 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **200435-92-3** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-(hydroxymethyl)-.alpha.-L-lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C10 H12 N2 O6
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry. Rotation (+).



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

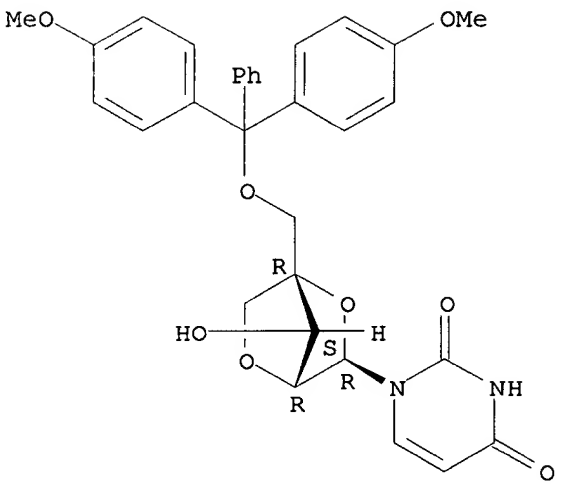
REFERENCE 2: 129:245421

REFERENCE 3: 128:308697

REFERENCE 4: 128:61733

L67 ANSWER 40 OF 40 REGISTRY COPYRIGHT 2000 ACS
RN **195705-32-9** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-anhydro-4-C-[[bis(4-methoxyphenyl)phenylmethoxy]methyl]-.alpha.-L-lyxofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H30 N2 O8
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry. Rotation (+).



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:252609

REFERENCE 2: 129:245421

REFERENCE 3: 129:216849

REFERENCE 4: 128:308697

REFERENCE 5: 128:61733

REFERENCE 6: 127:248347

=> fil hcaplus

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FILE LAST UPDATED: 6 Aug 2000 (20000806/ED)

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=> d bib abs tot

L68 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1999:655999 HCAPLUS
DN 131:282376
TI Antisense inhibition of ras gene with oligonucleotide analogs containing methylene(methylimino) linkages
IN Ecker, David J.; Cook, Phillip Dan; Monia, Brett P.; Freier, Susan M.; Sanghvi, Yogesh S.
PA Isis Pharmaceuticals, Inc., USA
SO U.S., 64 pp., Cont.-in-part of U.S. Ser. No. 317,289.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 69

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5965722	A	19991012	US 1997-848840	19970430 <--
	WO 9313121	A1	19930708	WO 1992-US11339	19921223 <--
	W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
	US 5386023	A	19950131	US 1993-40903	19930331 <--
	US 5489677	A	19960206	US 1993-40526	19930331 <--
	WO 9408003	A1	19940414	WO 1993-US9346	19931001 <--
	W: AU, BB, BG, BR, BY, CA, CZ, FI, HU, JP, KP, KR, KZ, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, VN				
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	HU 73335	A2	19960729	HU 1995-979	19931001 <--
	US 5866698	A	19990202	US 1994-227180	19940413 <--
	US 5623065	A	19970422	US 1994-244993	19940621 <--
	US 5618704	A	19970408	US 1994-300072	19940902 <--
	US 5792844	A	19980811	US 1994-317289	19941003 <--
	US 5808023	A	19980915	US 1994-335046	19941107 <--
	US 5859221	A	19990112	US 1995-468037	19950606 <--
	US 5969118	A	19991019	US 1997-794493	19970204 <--
	WO 9849349	A1	19981105	WO 1998-US8800	19980430 <--
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	EP 981648	A1	20000301	EP 1998-923319	19980430 <--
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PRAI	US 1991-801168	19911120 <--
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	US 1992-958134	19921005 <--
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	US 1993-39979	19930330 <--
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	US 1993-40903	19930331 <--
	US 1993-40933	19930331 <--
	WO 1993-US9346	19931001 <--
	US 1994-227180	19940413 <--
	US 1994-244993	19940621 <--
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	US 1994-317289	19941003 <--
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	US 1995-411734	19950403 <--

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     US 1995-465866    19950606  <--
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     US 1990-518929    19900504  <--
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     US 1990-566836    19900813  <--
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     US 1991-703619    19910521  <--
     US 1991-715196    19910614  <--
     US 1992-835932    19920305  <--
     WO 1992-US4294    19920521  <--
     US 1992-903160    19920624  <--
     US 1992-854634    19920701  <--
     US 1997-848840    19970430  <--
     WO 1998-US8800    19980430
AB   Compns. and methods are provided for the modulation of expression of the
     human ras gene in both the normal and activated forms. Oligonucleotides
     are provided that have methylene(methylimino) linkages alternating with
     phosphorothioate or phosphodiester linkages. Further oligonucleotides are
     provide that have a first region having a methylene(methylimino) linkage
     alternating with a phosphorothioate or phosphodiester linkage and a second
     region having phosphorothioate linkages. Such oligonucleotides can be
     used for diagnostics as well as for research purposes including methods
     for diagnosis, detection and treatment of conditions arising from the
     activation of the H-ras gene. Thus, a no. of different
     phosphorothioate-linked antisense oligonucleotides, some contg.
     methylene(methylimino)-linkages, were tested for inhibition of H-ras gene
     expression as well as tumor cell growth in vivo. These oligonucleotide
     analogs were directed either to the initiation codon or to mutant codon
     12.
RE.CNT  362
RE
(1) Agarwal; Nucl Acids Res 1979, V6, P3009 HCAPLUS
(2) Agrawal; Proc Natl Acad Sci USA 1988, V85, P7079 HCAPLUS
(3) Agrawal, S; Proc Natl Acad Sci USA 1990, V87, P1401 HCAPLUS
(4) Agris; Biochemistry 1986, V25(20), P6268 HCAPLUS
(5) Anfossi; Proc Natl Acad Sci 1989, V86, P3379 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68  ANSWER 2 OF 14  HCAPLUS  COPYRIGHT 2000 ACS
AN   1999:64976  HCAPLUS
DN   130:134176
TI   Antisense oligonucleotides inhibiting expression of alleles of the ras
     gene
IN   Monia, Brett P.; Cowsert, Lex M.; Manoharan, Muthiah
PA   Isis Pharmaceuticals, Inc., USA
SO   PCT Int. Appl., 97 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 69
     PATENT NO.        KIND  DATE          APPLICATION NO.   DATE
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PI   WO 9902732         A1   19990121      WO 1998-US13966   19980706 <--
         W:  AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
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             KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,
             MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
             TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
             FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
             CM, GA, GN, ML, MR, NE, SN, TD, TG
     US 5872242          A    19990216      US 1997-889296    19970708 <--
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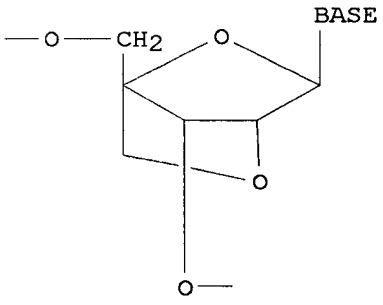
AU 9882899 A1 19990208 AU 1998-82899 19980706 <--
EP 1009860 A1 20000621 EP 1998-933184 19980706 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
PRAI US 1997-889296 19970708 <--
US 1992-958134 19921005 <--
US 1993-7996 19930121 <--
US 1995-411734 19950403 <--
WO 1998-US13966 19980706

AB Antisense oligonucleotides that hybridize with mRNA for the human of H-ras, Ki-ras and N-ras genes and that can inhibit expression are described. Such oligonucleotides can be used for therapeutics and diagnostics as well as for research purposes. Methods are also disclosed for modulating ras gene expression in cells and tissues using the oligonucleotides provided, and for specific modulation of expression of activated ras. Methods for diagnosis, detection and treatment of conditions assocd. with ras are also disclosed. A series of reporter gene expts. in which target sequences were identified in the H-ras gene and alterations in the backbone that stabilized the oligonucleotide without loss of antisense activity and retaining the ability to attract RNase H cleavage of the hybrid are reported.

RE.CNT 8
RE
(1) Agrawal; Proceedings of the National Academy of Sciences USA 1990, V87, P1401 HCAPLUS
(2) Bos; US 4871838 A 1989 HCAPLUS
(3) Daaka; Oncogene Research 1990, V5 HCAPLUS
(4) Hall; Nucleic Acids Research 1985, V13(14), P5255 HCAPLUS
(5) Inoue; FEBS Letters 1987, V215(2), P327 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:771986 HCAPLUS
DN 130:139574
TI LNA (Locked Nucleic Acid): An RNA Mimic Forming Exceedingly Stable LNA:LNA Duplexes
AU Koshkin, Alexei A.; Nielsen, Poul; Meldgaard, Michael; Rajwanshi, Vivek K.; Singh, Sanjay K.; Wengel, Jesper
CS Center for Synthetic Bioorganic Chemistry Department of Chemistry, University of Copenhagen, Copenhagen, DK-2100, Den.
SO J. Am. Chem. Soc. (**1998**), 120(50), 13252-13253
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
GI



I

AB Locked nucleic acids, contg. 2'-O-,4'-C-methylene linked bicyclic ribofuranosyl nucleosides (I), have become interesting structures in the

search for nucleic acid mimics capable of finding strongly to DNA or RNA complements. ' LNA:LNA hybridization was shown to be the most thermally stable nucleic acid type duplex system, and the RNA-mimicking character of LNA was established at the duplex level. Introduction of 3 LNA monomers (TL or AL) induced significantly increase MPs (.DELTA.Tm = +15.degree./+11.degree.) toward DNA complements. The universality of LNA-mediated hybridization has been stressed by the formation of exceedingly stable LNA:LNA duplexes. The RNA-mimicking of LNA was reflected with regard to the N-type conformational restriction of the monomers and to the secondary structure of the LNA:RNA duplex. The general LNA hybridization proceeded by duplex formation via Watson-Crick H-bonding in a predictable manner, establishing the development of LNA as an important example of biomimetic chem.

RE.CNT 25
RE
(1) Altmann, K; Tetrahedron Lett 1994, V35, P2331 HCAPLUS
(2) Bolli, M; Chem Biol 1996, V3, P197 HCAPLUS
(4) Christensen, N; J Am Chem Soc 1998, V120, P5458 HCAPLUS
(6) Egli, M; Antisense Nucleic Acid Drug Dev 1998, V8, P123 HCAPLUS
(7) Gryaznov, S; Proc Natl Acad Sci U S A 1995, V92, P5798 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

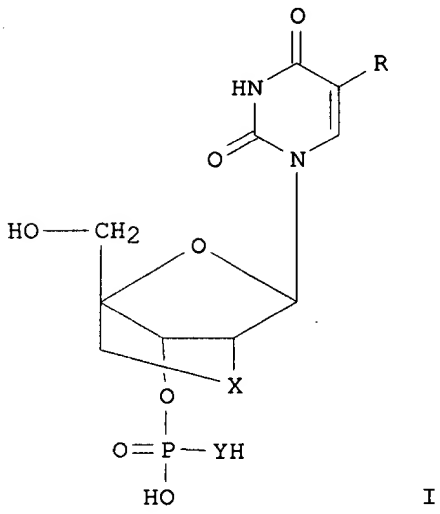
L68 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:728602 HCAPLUS
DN 130:17212
TI Oligonucleotides modified for enhanced bioavailability
IN Dean, Nicholas M.; Bennett, C. Frank; Monia, Brett P.; Draper, Kenneth; Anderson, Kevin P.; Baker, Brenda F.; Ecker, David J.
PA Isis Pharmaceuticals, Inc., USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9849348	A1	19981105	WO 1998-US8798	19980430 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9872723	A1	19981124	AU 1998-72723	19980430 <--
	EP 979309	A1	20000216	EP 1998-920076	19980430 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRAI US 1997-847151 19970430 <--
WO 1998-US8798 19980430
AB The present invention provides compns. and methods for the alimentary delivery of oligonucleotides in an animal, including a human. Modifications to the oligonucleotide which enhance uptake following alimentary delivery are provided.
RE.CNT 9
RE
(1) Agrawal, S; Biochem Pharmacol 1995, V50(4), P571 HCAPLUS
(2) Hanecak, R; J Virology 1996, V70(8), P5203 HCAPLUS
(3) Lesnik, E; Biochemistry 1993, V32(30), P7832 HCAPLUS
(4) Manoharan, M; Nucleosides & Nucleotides 1995, V14(3-5), P969 HCAPLUS
(5) Manoharan, M; Tetrahedron Letters 1995, V36(21), P3651 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:606897 HCAPLUS

DN 129:302798
TI The first analogs of LNA (locked nucleic acids): phosphorothioate-LNA and 2'-thio-LNA
AU Kumar, Ravindra; Singh, Sanjay K.; Koshkin, Alexei A.; Rajwanshi, Vivek K.; Meldgaard, Michael; Wengel, Jesper
CS Center for Synthetic Bioorganic Chemistry, Department of Chemistry, University of Copenhagen, Copenhagen, DK-2100, Den.
SO Bioorg. Med. Chem. Lett. (**1998**), 8(16), 2219-2222
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
GI



I

AB LNA (Locked Nucleic Acids) are novel oligonucleotide analogs capable of recognizing complementary DNA and RNA with unprecedented thermal affinities. Synthesis of the first chem. modified LNA analogs is reported. A 9-mer phosphorothioate-LNA contg. three LNA thymine monomers (I, X = O, Y = S, R = Me) and 9-mer LNAs contg. one, three or five 2'-thio-LNA monomers (I, X = S, Y = O, R = H) were able to recognize both complementary DNA and RNA with thermal affinities comparable to those of parent LNA.

L68 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:362973 HCAPLUS
DN 129:149173
TI Universality of LNA-mediated high-affinity nucleic acid recognition
AU Singh, Sanjay K.; Wengel, Jesper
CS Department of Chemistry, University of Copenhagen Centre for Synthetic Bioorganic Chemistry, Copenhagen, DK-2100, Den.
SO Chem. Commun. (Cambridge) (**1998**), (12), 1247-1248
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB LNA (locked nucleic acid) is a novel class of nucleic acid mimic structurally closely resembling RNA. Incorporation of three LNA monomers together with six ribonucleotide monomers afforded the first ribo-LNA sequence. Unprecedented thermal stabilities of duplexes towards complementary DNA and RNA without compromising base-pairing selectivity were obtained for ribo-LNA, thus establishing the universality of LNA-mediated efficient targeting of natural nucleic acids.

L68 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2000 ACS

AN 1998:331697 HCAPLUS
DN 129:28159
TI A Novel Class of Oligonucleotide Analogs Containing 2'-O,3'-C-Linked [3.2.0]Bicycloarabinonucleoside Monomers: Synthesis, Thermal Affinity Studies, and Molecular Modeling
AU Christensen, Nanna K.; Petersen, Michael; Nielsen, Poul; Jacobsen, Jens P.; Olsen, Carl Erik; Wengel, Jesper
CS Department of Chemistry, Odense University, Odense M, DK-5230, Den.
SO J. Am. Chem. Soc. (**1998**), 120(22), 5458-5463
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB Oligonucleotide analogs contg. a novel 2'-O,3'-C-linked [3.2.0]bicyclonucleoside have been efficiently synthesized. Enhanced thermal stabilities of duplexes toward both RNA and DNA are reported for a 14-mer oligothymidylate contg. 13 modifications and for a nonamer mixed sequence contg. three modifications. These results and the results from mol. modeling reveal that strong conformational restriction of a monomer can be important for favorable duplex formation though the fixed conformation of the pentofuranose ring deviates from a North or South conformation.

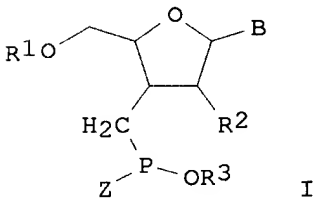
L68 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:14443 HCAPLUS
DN 128:240833
TI The ups and downs of nucleic acid duplex stability: structure-stability studies on chemically-modified DNA:RNA duplexes
AU Freier, Susan M.; Altmann, Karl-Heinz
CS Isis Pharmaceuticals, Carlsbad, CA, 92008, USA
SO Nucleic Acids Res. (**1997**), 25(22), 4429-4443
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB In an effort to discover novel oligonucleotide modifications for antisense therapeutics, the authors have prepd. oligodeoxyribonucleotides contg. more than 200 different modifications and measured their affinities for complementary RNA. These include modifications to the heterocyclic bases, the deoxyribose sugar and the phosphodiester linkage. From these results, the authors have been able to det. structure-activity relationships that correlate hybridization affinity with changes in oligonucleotide structure. Data for oligonucleotides contg. modified pyrimidine nucleotides are presented. In general, modifications that resulted in the most stable duplexes contained a heteroatom at the 2'-position of the sugar. Other sugar modifications usually led to diminished hybrid stability. Most backbone modifications that led to improved hybridization restricted backbone mobility and resulted in an A-type sugar pucker for the residue 5' to the modified internucleotide linkage. Among the heterocycles, C-5-substituted pyrimidines stood out as substantially increasing duplex stability.

L68 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:13973 HCAPLUS
DN 128:89086
TI Preparation of nucleotide methylphosphonate intermediates for oligodeoxyribonucleotide synthesis
IN Collingwood, Stephen Paul; Moser, Heinz Ernst; Altmann, Karl-Heinz; Douglas, Mark Edward
PA Novartis A.-G., Switz.; Collingwood, Stephen Paul; Moser, Heinz Ernst; Altmann, Karl-Heinz; Douglas, Mark Edward
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9747636	A2	19971218	WO 1997-GB1490	19970603 <--
	W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2257453	AA	19971218	CA 1997-2257453	19970603 <--
	AU 9729719	A1	19980107	AU 1997-29719	19970603 <--
	EP 906327	A2	19990407	EP 1997-924155	19970603 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1221423	A	19990630	CN 1997-195452	19970603 <--
	BR 9709791	A	19990810	BR 1997-9791	19970603 <--
PRAI	GB 1996-12600	19960613 <--			
	WO 1997-GB1490	19970603 <--			

OS MARPAT 128:89086

GI



I

AB Nucleotide methylphosphonates I [B = nucleobase; R1 = H, hydroxy-protecting group; R2 = H, OH, 2'-nucleoside-modifying atom or group; R3 = (un)substituted C1-C10 alkyl, C2-C10 alkenyl, C4-C10 cycloalkylalkyl, C6-C10 aryl, C7-C13 aralkyl; Z = halogen, alkylamine, alkenylamine, cycloalkylamine, arylamine, aralkylamine, nucleoside or oligodeoxyribonucleotide] were prepd. Thus, I [B = thymine, R1 = DMTr, R2 = H, R3 = CH2CH2CN, Z = N(iPr)2] was prepd. as synthon for oligodeoxyribonucleotide synthesis.

L68 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1995:1000225 HCAPLUS
DN 124:202878
TI Oligonucleotide Mimics for Antisense Therapeutics: Solution Phase and Automated Solid-Support Synthesis of MMI Linked Oligomers
AU Morvan, Francois; Sanghvi, Yogesh S.; Perbost, Michel; Vasseur, Jean-Jacques; Bellon, Laurent
CS Medicinal Chemistry Department, Isis Pharmaceuticals, Karlovy vary, CA, 92008, USA
SO J. Am. Chem. Soc. (**1996**), 118(1), 255-6
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB CH2NMe-linked analogs of the phosphorothioate-linked oligonucleotide Isis 3521 were prepd. by automated synthesis. The new oligonucleotides hybridized their complimentary RNA with better affinity and specificity than Isis 3521 and inhibited PKC-.alpha. protein expression.

L68 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1995:969424 HCAPLUS
DN 124:146761
TI Backbone-modified oligonucleotide analogs and solid phase synthesis
IN Cook, Phillip Dan; Sanghvi, Yogesh S.; Morvan, Francois
PA Isis Pharmaceuticals, Inc., USA

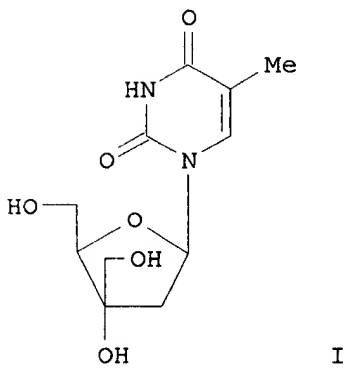
SO PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 69

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9518136	A1	19950706	WO 1994-US14883	19941228 <--
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5541307	A	19960730	US 1993-174379	19931228 <--
	EP 737201	A1	19961016	EP 1995-906115	19941228 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				

PRAI US 1993-174379 19931228 <--
US 1990-558663 19900727 <--
US 1990-566836 19900813 <--
US 1991-703619 19910521 <--
US 1992-903160 19920624 <--
US 1993-40903 19930331 <--
WO 1994-US14883 19941228 <--

AB Compds. and methods for prepg. nuclease-resistant oligonucleotide analogs are provided. In preferred embodiments, the methods involve solid-phase coupling of synthons bearing either 3'-electrophilic groups and 5'-nucleophilic groups or 5'-electrophilic groups and 3'-nucleophilic groups to form neutral, achiral oligomers. In particular, amine-terminated synthons are coupled with aldehyde-terminated synthons to produce hydroxylamino- and/or hydrazino-contg. covalent linkages. Examples illustrate prepn. of a variety of nucleotide analogs, various nucleotide dimer and tetramer analogs contg. the novel linkages, and oligonucleotide analogs contg. both the novel and std. linkages. For instance, coupling of 5'-O-amino-N4-benzoyl-3'-O-tert-butyldiphenylsilyl-5-methyl-2'-deoxycytidine with 5'-O-tert-butyldiphenylsilyl-3'-deoxy-3'-C-formylthymidine to give an oxime, followed by deprotection of the benzamide function with NH3/MeOH, redn. of the oxime function with NaBH3CN, and reductive N-methylation with formaldehyde and NaBH3CN, gave the dimer TBDPS-O-T*MeC-O-TBDPS [TBDPS = tert-butyldiphenylsilyl; * = 3'-CH2NMeO-5' (hereafter "MMI") linkage; Me = 5-methyl] in 84% yield. This dimer was subjected to N-benzoylation, desilylation, tritylation, and phosphitylation, to give the dimer DMT-O-T*MeCBz-O-Amidite [DMT = 4,4'-dimethoxytrityl; Amidite = P(NPr-iso2)OCH2CH2CN; Bz = N4-benzoyl]. This and similar MMI-linkage dimers and tetramers were used to prep. chimeric oligonucleotides such as T*TPSC*TPSCPSGPSCPSTPSGPSGPSTPSGPSAPSGPS T*TPST*C (code no. 9495; I; PS = phosphorothioate linkage). As an antisense oligonucleotide for PKC-.alpha. mRNA in A549 cells, I showed greater activity (IC50 = 80 nM) than the analogous std. oligonucleotide sequence with pure phosphorothioate linkages (IC50 = 175 nM).

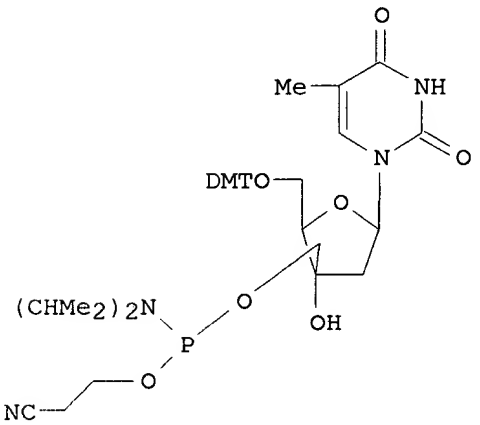
L68 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1995:631113 HCAPLUS
DN 124:176753
TI 3'-C-hydroxymethylthymidine: synthesis and incorporation into oligodeoxynucleotide analogs
AU Jorgensen, Pia Norregaard; Svendsen, Margit L.; Nielsen, Claus; Wengel, Jesper
CS Dep. of Chemistry, Odense Univ., Odense, DK-5230, Den.
SO Nucleosides Nucleotides (**1995**), 14(3-5), 921-4
CODEN: NUNUD5; ISSN: 0732-8311
DT Journal
LA English
OS CASREACT 124:176753
GI



I

AB The stereoselective synthesis of C-hydroxymethylthymidine I in five steps from thymidine has been accomplished and this nucleoside has been incorporated into oligodeoxyribonucleotides (ODNs) in different ways.

L68 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1995:400829 HCAPLUS
DN 123:9841
TI Incorporation of 3'-C-(hydroxymethyl)thymidine into novel oligodeoxyribonucleotide analogs
AU Noerregaard Joergensen, Pia; Svendsen, Margit L.; Scheuer-Larsen, Claus; Wengel, Jesper
CS Dep. Chem., Odense Univ., Odense, DK-5230, Den.
SO Tetrahedron (**1995**), 51(7), 2155-64
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
GI



I

AB 3'-C-(Hydroxymethyl)thymidine has been incorporated into novel oligodeoxyribonucleotide (ODN) analogs contg. extended (5'-hydroxyl to 3'-hydroxymethyl) backbones using the phosphoramidite building block I. The hybridization properties and enzymic stabilities of ODN analogs were studied by UV expts.

L68 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2000 ACS
AN 1994:271032 HCAPLUS
DN 120:271032
TI Oligodeoxynucleotide analogs containing 3'-deoxy-3'-C-threo-

hydroxymethylthymidine: synthesis, hybridization properties and enzymic stability

AU Svendsen, Margit L.; Wengel, Jesper; Dahl, Otto; Kirpekar, Finn; Roepstorff, Peter

CS Dep. Chem., Odense Univ., Odense, DK-5230, Den.

SO Tetrahedron (**1993**), 49(48), 11341-52
CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA English

AB Novel Oligodeoxynucleotide analogs contg. 3'-C-threo-methylene phosphodiester internucleoside linkages were synthesized on automated DNA-synthesizers using the phosphoramidite approach. The sugar modified phosphoramidite building block 5 was obtained by phosphitylation of 1-(2,3-dideoxy-5-O-(4,4'-dimethoxytrityl)-3-C-hydroxymethyl-.beta.-D-threo-pentofuranosyl)thymine (4) which was synthesized in only three steps from 5'-O-(4,4'-dimethoxytrityl)thymidine (1). The hybridization properties and enzymic stability of the oligonucleotide analogs were studied by UV expts. 17-Mers having one or three modifications in the middle or two modifications in each end hybridized to DNA with moderate lowered affinity compared to unmodified 17-mers (.DELTA.Tm 1-3.degree. per modification). Furthermore, the end-modified and all-modified oligonucleotides were stable towards snake venom phosphodiesterase.